

Family Holocentridae

Body oblong or ovate, moderately compressed. Head moderate or large, compressed. Snout sharp and produced in young, obtuse with age. Eyes lateral, very large. Mouth moderate, oblique. Premaxillaries protractile. Maxillary very large, with supplemental bone. Bands of villiform teeth in jaws, on vomer and palatines. No barbels. Opercular bones and membrane bones of head usually serrated or spinescent along edges. Gill membranes separate, free from isthmus. Gills 4, slit behind fourth. Pseudobranchiae present. Branchiostegals 7 or 8. Air bladder large, sometimes connected with organ of hearing. Pyloric coeca 8 to 25. Vertebral 27. Scales very

strongly ctenoid or spinous.
Sides of head scaly. Head with large muciferous cavities. Lateral line present, axial along side. Dorsal very long, deeply divided, with 11 strong spines, depressible in scaly groove and soft portion shorter. Anal with 4 spines, third longest and strongest. Caudal deeply forked, with sharp rudimentary rays or fulcra at base, branched rays 17. Ventral thoracic, with spine and 5 to 8 rays.

Usually bright or brilliantly colored red fishes living in tropical seas, abundant about coral reefs. The young with sharp and prominent pointed snout, these having given rise

to several nominal genera, - are simply the early stages of development.

A large family of tropical and subtropical shore fishes. Most all are bright or brilliant red in color, with white or golden bands. In account of these bright colors, together with their spiny armature, they are called soldier fishes. They are found abundantly about coral reefs and in the markets of tropical countries are often among the most conspicuous of food fishes. The young are quite different from the adult, usually with a long, sharp, pointed snout and contrasted colors. They have given rise to several nominal genera as Rhamphobryx, Rhynchichthys

and Rhinoberyx.

Among fossils Dinopteryx A. S. Woodward, with 7 anal spines, has been provisionally admitted to this family.

Regan has named Caproberyx from the English Chalk, known only from the head, pectoral arch and anal spines. "In the short praemaxillary processes and the absence of a praopercular spine Caproberyx resembles Myripristis, in the expanded praeorbitals and the weak principal and numerous radiating frontal ridges Holocentrus." Its prominent occipital crest is also thought to suggest Antigonia. Holocentroides Pauca, from the

upper median caudal ray bases.
Upper dorsal edge deep sulphur
yellow, with narrow submarginal
gray band; dorsal base yellowish
orange and rather broad basal
yellow band from tip of first spine
to end of last ray. Caudal orange
rosy. Paired fins tinted yellow.
Inside gill opening brick rose.
Iris golden.

52866 and 52867 A.N.S.P. Hong Kong,
China. Henry W. Fowler. Length 180 to 215 mm.

53130 A.N.S.P. Bombay, India.
Prof. F. Hallberg. 1924. Purchased.
Length 200 mm.

Oligocene of Roumania, is
also referred to this family.

7929, 21846. Limbones Cove. February 8,
1909. Length 134 to 238 mm.

6285. Malapascua Island. March 16,
1909. Length 206 mm.

6582, ⁶⁵⁹⁸ Maricaban Island near Sepoc
Point. July 21, 1908. Length ^{240 to} 256 mm.

6233, 6234. Medip Island, Galera Bay,
Mindoro. June 9, 1908. Length 220 to 250 mm.

17639. Mompoy Island, Tinabayan Island.
March 3, 1909. Length 186 mm.

8899. Near Palag Bay, Luzon. June
16, 1909. Length 315 mm.

6610. North-west Point Verde Island.
July 22, 1908. Length 245 mm.

07953. Pagapas Bay, Luzon. February
20, 1909. Length 463 mm. Silvery gray
on back, top of head with metallic brown
overshade. When fading scales of head and
side show yellowish green edges, forming
obscure stripes in middle of side, edges

Analysis of Genera

a. Myripristinae. Preopercle without prominent spine from angle.

b. Scales very rough with coarse serrae.

c. Lower edge of preorbital with large, strong spines.

d. Preorbital spines directed backward. Corniger.

d. Preorbital spines directed forward. Plectrypops.

e. Lower edge of preorbital with moderate, small or inconspicuous denticles.

e. Scales large, 30 to 34. Ostichthys.

e. Scales small, 42 or 43. Holotrachys.

b. Scales rather smooth, serrae very fine, 27 to 40 in lateral line.

Myripristes.

are very conspicuous. Some examples show dark median or submarginal band along each caudal lobe and in others a large well defined black blotch at the front of the soft dorsal basally. Some examples also with hind membrane of opercle blackish.

7221, 8144, 12995, 16294, 17749. Alibijaban Island, Ragay Gulf, Luzon. Length 134 to 284 mm.

8070. Alimango Bay, Burias Island. March 5, 1909. Length 490 mm.

7831. Bugsuk Island. January 5, 1909. Length 416 mm.

21631. Calangaman Island, between Leyte and Cebu. March 16, 1909. Length 128 mm.

17069. Canmahala Bay, Ragay Gulf, Luzon. March 11, 1909. Length 193 mm.

12359, 17403. Candaraman Island, Balabac. February 14, 1909. Length 177 to 188 mm.

a.² Holocentrinae. Preopercle with
prominent spine back from angle;
scales 33 to 55. Holocentrus.

medially, giving streaked appearance to fin. Pectoral with broad dusky or neutral dusky axillary blotch, also as dark bar across fin base, most dark at origin of fin. Ventrals slightly dusky terminally. Also some dusky streaks on median membranes of anal basally.

Red Sea, Arabia, Madagascar, India, Ceylon, East Indies, Philippines, Australia, Melanesia, Micronesia, Polynesia, Hawaii. An abundant species in many parts of its range, reaching upwards of 600 mm. in length. It is largely similar throughout its growth cycle. The adults are conspicuous among market-fishes by their heavy or robust, obtuse heads with great eyes and deep bodies. In young or small examples the transverse white bands

Genus Corniger Agassiz

Corniger Agassiz, Pisc. Brasil. Spix,
pp. 119, 121, 1826. (Type Corniger spinosus
Agassiz, monotypic.)

Body deeply ovoid, compressed. Head rather large. Snout rather obtuse, moderate. Eye advanced, rather high. Maxillary reaches below hind part of eye, broadly expanded. Mouth low, moderate. Broad bands of minute teeth in jaws, on vomer and palate. Interorbital low. Branchiostegals 8. Scales all more or less rough spiny. Infraorbital edge with 4 enlarged, strong, curved spines, all directed posteriorly and longer than preopercular. Postorbital bones strongly denticulated. Preopercle with 2 strong spines at angle. Opercle with 2 smaller subequal spines. Opercle and preopercle limb covered with sharp pointed spines. Spinous dorsal rather low, spines 12, soft fin higher and

dusky. Pectoral brassy.

7076. Port San Pio Quinto. November 11, 1908. Length 303 mm. Dark olivaceous, paler below. Side of head with blackish speckling, also little on side of body. Inside mouth scarlet. Fins slightly reddish or orange terminally. Pectoral scarlet in upper base and in axil. Scarlet blotch on gill opening under point of pectoral.

8979. Rapurapu Island. June 22, 1909. Length 680 mm.

8902. Rasa Island, Lagonoy Gulf. June 17, 1909. Head and part of trunk, head 195 mm. long.

shorter. Anal with 4 small spines,⁵⁵⁸
soft fin like soft dorsal. Caudal
moderate or small, little emarginate
behind. Pectoral short. Ventral
little longer than pectoral.

One species. Similar to
Plectrypops but with the large
infrad orbital spines directed
posteriorly.

22567. Malcochin Harbor, Linapacan Island. December 19, 1908. Length 69 mm.

21611. Matnog Bay. May 31, 1909.
Length 103 mm.

20442 to 20444. Iato River, Luzon.
June 19, 1909. Length 98 to 106 mm.

19476 and 19477. Port Calton,
Pangauron River. December 16, 1908. Length
65 to 185 mm.

6348. Port Jamelo. July 13, 1908.
Length 204 mm. Olive and dusky above,
pale below. Cheek and preorbitals with
dusky. Side more or less washed with
yellow. Vertical fins slightly marked
with crimson on membranes. ^{Ventral} fins

559

Corniger spinosus Agassiz

Corniger spinosus Agassiz, Pisc. Brasil.
Spir., p. 121, pl. 75, 1826 (type locality,
Brazil). — Ribeiro, Arch. Mus. Nat. Rio
de Janeiro, vol. 17, Holocentridae, p. 8, pl., fig.
1915 (Rio Janeiro).

Holocentrum spinosum Günther,
Cat. Fish. Brit. Mus., vol. 1, p. 49,
1859 (copied).

Holocentrum cornigerum Valenciennes,
Hist. Nat. Poiss., vol. 8, p. 481, 1831
(on Agassiz)

Depth $2\frac{1}{8}$ to $2\frac{1}{3}$; head $2\frac{3}{5}$ to $2\frac{2}{3}$. Snout $3\frac{1}{2}$ to $4\frac{1}{5}$ in head from snout tip; eye $3\frac{2}{5}$ to $4\frac{1}{8}$, subequal to little greater than snout; maxillary reaches $\frac{3}{4}$ to $\frac{7}{8}$ in eye, expansion $1\frac{1}{5}$, length 2 to $2\frac{1}{5}$ in head from snout tip; interorbital low; third infraorbital spine longest or equals eye; upper preopercular spine $1\frac{3}{4}$ in eye, lower much shorter.

Scales about 28 in lateral line to caudal base and 2 more on latter; 3 above, 8 below, 4 rows on cheeks.

D. XII, 13, fourth spine $2\frac{1}{3}$ in total head length; eighth ray $2\frac{3}{4}$; A. IV, 11, third spine $3\frac{2}{3}$, fourth ray $2\frac{1}{8}$; caudal 2, little

5 above, 16 below, predorsal scales extending forward opposite front eye edge; 5 rows across cheek to preopercle ridge and 3 more over preopercle flange.

D. XII, 10, I, third spine 2 in total head length, first ray $2\frac{4}{5}$; A. III, 8, second spine $2\frac{2}{5}$, first ray $2\frac{3}{5}$; caudal $1\frac{1}{10}$, deeply emarginate, pointed lobes broadly triangular; least depth of caudal peduncle $2\frac{4}{5}$; ventral $1\frac{2}{5}$; pectoral $2\frac{3}{5}$ in combined head and body to caudal base.

Pink above, washed with gold, below silvery. Head dull red above, shaded into paler body color.

Dorsal and caudal saffron yellow, base and lateral borders of latter pink. Anal and ventral colorless.

emarginate behind; least depth
of caudal peduncle $3\frac{4}{5}$; pectoral
2, rays 15; ventral rays
I, 6, fin 2 in head.

Red or golden. Length to
193 mm. (Agassiz; Ribeiro.)

Brazil.

can 179 Dentex spariformis Ogilby
Dentex spariformis Ogilby, Proc. Roy. Soc.
 Queensland, vol. 23, 1910, p. 91. Thirty-six
 miles S. 12° W. from Moreton Island,
 Queensland, in 73 fathoms; Mem.
 Queensland Mus., vol. 5, 1916, p. 169, pl.
 21 (off Cape Moreton).

Depth 2; head $2\frac{3}{4}$, upper profile convex.
 Snout $2\frac{3}{4}$ in head; eye $3\frac{1}{5}$, $1\frac{1}{5}$ in
 snout, greater than eye; maxillary
 reaches $\frac{1}{4}$ in eye, length $2\frac{4}{5}$ in head;
 jaws equal; 2 front pairs of strong
 curved canines anteriorly; jaws with
 bands of vomerine teeth, outer series
 stout conic ones; interorbital $3\frac{1}{2}$ to
 $3\frac{2}{3}$, strongly convex; preopercle edge
 entire; preorbital depth $1\frac{4}{5}$ in eye.
 Gill rakers 6 or 7 + 12 or 13, well
 developed, 3 to $3\frac{1}{3}$ in eye.

Scales 49 to 51 in lateral line;

562

Genus Plectrypops Gill

Plectrypops Gill, Proc. Acad. Nat. Sci. Philadelphia, p. 237, 1862.

(Type Holocentrum retrospinis Guichenot, monotypic.)

Hypoplectron Ribeiro, Arch. Mus. nac. Rio de Janeiro, vol. 17, Holocentridae, p. 8, 1915. (Type Holocentrum retrospinis Guichenot, monotypic.)

Body rather deeply ellipsoid, moderately compressed. Head large. Snout short. Eye moderately small, advanced.

Mouth inferiorly terminal.

Bands of fine villiform teeth in jaws, on vomer and palatines.

Interorbital narrow, depressed.

Edges of suborbitals and preopercle with rather large irregular serrae, lower ones curved forward.

Gill rakers lanceolate, slender.

Scales large, in even longitudinal series. Lateral line complete,

oblique on side of caudal peduncle.
Tuber small, short. Dorsals
deeply notched. Anal opposite
and similar to soft dorsal,
third spine longest and fourth
subequal or little shorter, all
spines moderate or small.
Caudal forked. Pectoral low,
rays II, 14. Ventral smaller,
little behind pectoral.

One species.

564

Plectrypops retrospinis (Guichenot)

Holocentrum retrospinis Guichenot,
Hist. Nat. Cuba, Sagra, Zool.
p. 35, pl. 1, fig. 3, 1850 (type
locality, Cuba).

Plectrypops retrospinis Jordan
and Evermann, Bull. U. S. Nat.
Mus., No. 47, pt. 1, p. 853, 1896
(compiled). — J. H. Bean, Field
Col. Mus. Publ. Zool., vol. 7, no. 2,
p. 45, fig. 3, July 1906 (east
end of Cooper's Island,
Bermuda). — Week and
Hildebrand, Field Mus. Publ.
no. 215, Zool. Ser. vol. 15, p. 301,
pl. 23, December 20, 1923 (Joro
Point; Porto Bello). — Jordan,
Evermann, Clark, Rep. U. S. Comm.
Fisher., 1928 (1930), pt. 2, p. 236
(reference).

Holocentrum prospinosum Poey,
Mem. Hist. Nat. Cuba, vol. 2, p.
343, 1861 (type locality, Cuba
[Havana]).

Hypoplectron retrospinnis Ribeiro,
Arch. Mus. Nat. Rio de Janeiro, vol.
17, Holocentridae, p. 8, 1915
(reference).

1841 (D.5314). ($21^{\circ}41'N.$, $116^{\circ}46'E.$) China Sea.

November 5, 1908. Length 145 mm.

5257. San Fernando, Union Province, Luzon. March 17, 1908. Length 255 mm.

59742 U.S.N.M. Kochi, Japan. Dr. H. M. Smith. Length 152 mm.

2 examples (with 75436 U.S.N.M.). Tokyo, Japan. Jordan and Snyder. Length 79 to 80 mm. As Sparus swinhonis. These do not have any posterior molars.

86452 U.S.N.M. China. A de C. Sowerby. Length 240 mm.

86453 U.S.N.M. China. A de C. Sowerby. Length 238 mm.

52864 A.N.S.P. Hong Kong. Henry W. Fowler. Length 146 mm.

52900 A.N.S.P. Nagasaki. Henry W. Fowler. Length 220 mm.

566

Depth $2\frac{1}{4}$ to $2\frac{2}{5}$; head $2\frac{1}{3}$ to $2\frac{2}{3}$, width $1\frac{2}{3}$ to $1\frac{3}{4}$. Snout 5 to 6 in head; eye $3\frac{3}{4}$ to $3\frac{4}{5}$, greatly exceeds snout or interorbital; maxillary reaches opposite hind eye edge or $\frac{1}{5}$ eye diameter beyond, expansion $1\frac{1}{8}$ to $1\frac{1}{5}$ in eye, length $1\frac{7}{8}$ to $1\frac{9}{10}$ in head; interorbital 7 to $7\frac{1}{2}$, low, nearly level. Gill rakers $10+15$, lanceolate, 2 in eye; gill filaments $\frac{3}{5}$ of gill rakers.

Scales 32 in lateral line to caudal base and 4 more on latter; 4 above, 9 below, 8 predorsal, 4 rows on cheeks. Scales without basal points; row of 11 or 12 apical points, median longest and basal elements moderate and triangular;

these characters.

Provisionally I have placed Lethrinus sordidus Valenciennes and Lethrinus cocosensis Bleeker as synonyms. These are based on small or young specimens and I find little to distinguish them. Possibly Lethrinus alyphodon Günther is another synonym. It shows: depth $2\frac{4}{5}$ to 3 times in the total length, compared with $3\frac{1}{4}$ in total length for his Lethrinus leutjanus. It was based on a dried skin 346 mm. long. Prof. Schmidt has recently identified Günther's form from Riu Kiu, based on two small examples 134 and 160 mm. long.

567

cericuli very fine, basal, none extended apically.

D. XI, I, I, 13, I; third spine $2\frac{2}{5}$ to 3 in head; second branched ray 2 to $2\frac{1}{3}$; A. IV, 11, I, third spine $3\frac{1}{5}$ to $3\frac{1}{4}$, second branched ray 2 to $2\frac{1}{8}$; caudal $1\frac{2}{5}$ to $1\frac{3}{4}$, well forked, lobes pointed; least depth of caudal peduncle 5 to $5\frac{1}{2}$; pectoral $1\frac{2}{3}$ to $1\frac{3}{4}$; ventral $2\frac{1}{4}$ to $2\frac{1}{2}$.

Light reddish brown generally, scarcely paler below. Iris gray. Fins all pale or tinted light yellowish.

Cuba, Bermuda, Panama.

China, Formosa, ^{Rinkins} Australia, Melanesia, Hawaii. The very imperfect ~~original~~ account by Valenciennes, who accepts the Bodianus leutjan Lacépède, is not conclusive, still I follow Günther and Bleeker. The latter rejects Kner's Lethrinus leutjanus from Madras chiefly as there are 5 scales above the lateral line in the description and the paired fins reach to the anal, also the enlarged posterior teeth in the outer row are spherical. Its upper jaw is said to reach nearly below the anterior nostril. From this and from the rest of Kner's account I think it may be simply a variant. The 5 scales above the lateral line and the paired fins reaching opposite the anal origin will surely not preclude its identity with the present species, as I find some of my specimens with

U. S. N. M., No. 74114. Bermuda.
J. H. Bean. Length 133 mm.

U. S. N. M., No. 74115. Bermuda.
J. H. Bean. Length 108 mm.

U. S. N. M., No. 74116. Bermuda.
J. H. Bean. Length 133 mm.

U. S. N. M., No. 79898. Porto
Bello, Panama. March 19, 1912.
Meek and Hildebrand. Length 74 mm.

U. S. N. M., No. 79899. Toro
Point, Canal Zone. Meek and
Hildebrand. Length 105 to 120 mm.
Two examples.

U. S. N. M., No. 79902. Toro Point.
April 12, 1911. Meek and Hildebrand.
Length 110 mm.

6 above, 14 or 15 below, 8 predorsal; small scales on caudal and pectoral bases. Scales with 13 to 21 basal radiating striae, with 4 to 7 incomplete auxiliaries; 70 to 140 apical denticles, with 5 to 22 transverse series of basal elements; circuli very fine.

D. X, 9, I, fourth spine $2\frac{7}{8}$ to $3\frac{2}{3}$ in head, fourth ray $2\frac{7}{8}$ to $2\frac{9}{10}$; A. III, 8, I, third spine $3\frac{1}{4}$ to $3\frac{7}{8}$, first ray 3 to $3\frac{1}{4}$; caudal $1\frac{1}{4}$ to $1\frac{4}{5}$, deeply emarginate; least depth of caudal peduncle 3 to $3\frac{1}{5}$; pectoral $1\frac{1}{10}$ to $1\frac{1}{3}$; ventral $1\frac{1}{2}$ to $1\frac{7}{8}$.

Rather light brown generally. Naked portion of head deeper or drab brown. Iris golden brown. Edge of gill opening broadly brown all around. Fins uniformly brownish.

Madagascar, East Indies, Philippines,

569

Genus Ostichthys Cuvier

Ostichthys (Langsdorf) Cuvier, Hist. Nat. Poiss., vol. 3, p. 174, 1829. (Type Ostichthys aureus (Langsdorf) Cuvier = Myripristis japonicus Cuvier, monotypic.)

Body oblong, compressed. Head large. Snout conic. Eye moderate, high. Maxillary reaches below hind part of eye, jaws nearly equal. Teeth in broad villiform bands in jaws, on vomer and palatines. Interorbital narrow. Lower gill rakers 12 or 13. Branchiostegals 7. Scales large, firm, very spinigerous, each with numerous sharp points, each continued as ridge on surface of scale. Lateral line complete, nearly axial along side. Head rugose. Dorsal spines strong, soft fin less than half of spinous. Anal with ~~second~~^{third} ~~enlarged~~ ~~spine~~ enlarged, soft fin like soft dorsal. Caudal small, forked. Paired fins moderate. Several species, rather large, rough and with large scales.

bronze or yellowish band from
above pectoral base to caudal.

Head washed with bronze. Dorsal
and anal clear vermilion. Caudal
yellowish, vermilion at edges and
tip. Paired fins very pale pink.

18478 [963], 18790. Bolalo Bay,
Palawan. December 21, 1909. Length 144 to
160 mm. ^[963.] no blotches or stripes. Head
with brassy reflections. Caudal yellow,
vermilion shades at tip, other fins
more or less vermilion.

12453, 14801. Bugsula Island,
Balabac. January 5, 1909. Length 174 to 188
mm.

Analysis of Species

a.¹ Largely bright red, scales without dark edges.

b.¹ Scales 30 to 33 in lateral line.

c.¹ Uniform red, at least above.

c.² Each scale on back and above with golden spot. japonicus.

b.² Scales 34 or 35 in lateral line; rows of scales with broad dark broad median longitudinal band, alternating with pale one at scale junctures. pillwaxii.

a.² Silvery pink, beneath white; each scale of back with broad edge of dark purple; scales 33 in lateral line. trachypoma.

c.³ Sides with 9 golden longitudinal bands. australis.

archiepiscopus.

II, 6, I to 8, I, last spine $2\frac{4}{5}$ to $3\frac{1}{8}$, second ray 2 to $2\frac{1}{2}$; caudal 1 to $1\frac{1}{5}$, well forked, lower lobe little shorter; least depth of caudal peduncle $2\frac{3}{4}$ to $3\frac{1}{6}$; pectoral 1 to $1\frac{1}{8}$; ventral $1\frac{1}{6}$ to $1\frac{2}{5}$.

Back olivaceous, below paler to whitish, most everywhere with silvery white sheen. Iris whitish. Fins pale.

India, Siam, East Indies, Philippines, China, Formosa, Japan. Distinguished by its robust body, deep obtuse head, serrated hind preopercle edge and absence of filaments to fins. Young examples often show red on the opercle, in alcohol, though always have the preorbital strongly striated and the hind preopercle edge finely denticulated.

Ostichthys japonicus (Cuvier)

571

- Myripristis japonicus Cuvier, Hist. Nat. Poiss., vol. 3, p. 173, pl. 58, 1829 (type locality, Japan). — Schlegel, Fauna Japonica, Poiss., pts. 2-4, p. 23, pl. 9a, 1843 (south west coasts of Japan). — Bleeker, Verh. Batavia. Genoot. (hal. Ichth. Japan), vol. 25, p. 10, 1853 (reference); Act. Soc. Sci. Ind. Néerl., vol. 3, no. 3, p. 2, 1857-58 (Kioesio), p. 5 (Japan), p. 10 (reference). — Günther, Cat. Fish. Brit. Mus., vol. 1, p. 25, 1859 (Japan, China, Mauritius). — Guichenot, Notes Ile Réunion, vol. 2, p. 24, 1862. — Playfair, Fishes of Zanzibar, p. 17, 1866 (reference). — Bleeker, Ned. Tijds. Dierk., vol. 4, p. 136, 1873 (1874) (reference). — Steindachner, Denks. Akad. Wiss. Wien, vol. 47, pt. 1, p. 222, 1883 (Tokyo). — Nyström, Bih. Svensk. Vet. Akad. Handl., vol. 13, pt. 4, no. 4, p. 4, 1887 (Nagasaki). — Elera, Cat. Fauna Filipinas, vol. 1, p. 455, 1895 (Luzon, Cebu, Iloilo). — Ishikawa and
(; Rés. Poiss. Madagascar, Pollen et Van Dam, pt. 4, p. 86, 1874 (reference).

2052

7579, 7608. Cebu market. April
6, 1908. Length 192 mm.

7512, 16332, 16333. Chase Head,
Endeavor Strait, Palawan. December
22, 1908. Length 192 to 264 mm. (7512.) Pale
vermilion lateral stripes. No preorbital
bar. Bright crimson tinge below
preopercle and at opercle tip.

19033. Dasol Bay. May 8, 1907.
Length 128 mm.

4624. Grande Island Reef, Subig
Bay. January 8, 1908. Length 175 mm.

8791, 11863. Gubat Bay. June 23,
1909. Length 223 to 278 mm.

Matsumura, Cat. Fish. Mus. Tokyo, p. ⁵⁷²
58, 1897. — Jordan and Snyder,
Annot. Zool. Japan, vol. 3, p. 63, 1901
(reference).

Myripristes japonicus Richardson,
Ichth. China Japan, p. 223, 1846
(coasts of China; Canton).

□ Catbalogan, Samar. April 14, 1908.
Length 143 to 245 mm.

2 examples. Catbalogan. April 16, 1908.
Length 47 to 53 mm. Small specimens,
such as these, usually with pectorals
yellowish; often ventrals yellowish,
frequently with little gray to neutral
dusky, at least terminally; anal varies
yellowish to brownish.

12827. Cavite and San Roque market.
June 27, 1908. Length 95 mm.

7541, 7542, 7544, 10686, 10688 [1813]
to 10690. Cotabato, Mindanao. May 20, 1908.
Length 75 to 180 mm.

7566. Endeavor Strait, Palawan.

Astichthys japonicus Jordan and
Evermann, Proc. U. S. Nat. Mus., vol. 25,
p. 334, 1901 (Giran, Formosa). — Jordan
and Fowler, Proc. U. S. Nat. Mus., vol.
25, p. 334, 1902 (Giran example). —
Jordan, Yanaka, Snyder, Journ. College
Sci. Tokyo, vol. 33, p. 116, fig. 86, 1913
(Tokyo; Nagasaki). — Fowler, Mem.
Bishop Mus., vol. 10, p. 97 (not pl. 6A.),
1928 (part). — Schmidt, Trans. Pac.
Comm. Acad. Sci. U. S. S. R., vol. 2, p. 38,
1931 (Nagasaki). — Anonymous, Illustr.
Jap. Aquat. Plants Animals, vol. 1, pl.
123, fig. 6, 1931. — Chu, Biol. Bull.
St. John's Univ., no. 1, p. 96, January 1931
(reference).

December 23, 1908. Length 36 2 mm.

Cheek with 4 pale slaty to bluish bars. Similar larger bars transversely on side of body, disappearing in alcohol when interspaces become somewhat orange to bronze. Bluish tints under and about eye. Fins more or less orange terminally.

Pectoral yellowish, first ray bright blue. Ventral with front edge blue.

20512. Gujilugan beach, Tanon Strait, east coast of Negros. April 2, 1908. Length 45 mm.

A 424. Jolo market. March 6, 1908. Length 168 mm.

574

Depth $1\frac{9}{10}$ to 2; head $2\frac{1}{5}$ to $2\frac{1}{3}$, width $1\frac{9}{10}$ to 2. Snout $5\frac{3}{4}$ to 6 in head from snout tip; eye $2\frac{4}{5}$ to 3, greatly exceeds snout or interorbital; maxillary reaches opposite hind eye edge, expansion $1\frac{1}{3}$ to $1\frac{2}{5}$ in eye, length $1\frac{3}{4}$ to $1\frac{4}{5}$ in head from snout tip; interorbital $5\frac{1}{3}$ to $5\frac{7}{8}$, low, slightly convex. Gill rakers 7 + 12, of which 1 upper and 2 lower rudiments; gill filaments $\frac{1}{2}$ of gill rakers, which $1\frac{3}{4}$ in eye.

Scales 27 or 28 in lateral line to caudal base and 3 or 4 more on latter; 5 above, 8 below, 8 predorsal, 4 or 5 rows on cheek. Scales without basal points; row of 15 or 16 apical denticles, median largest, each with rather long slender basal element; circuli very

Spinous dorsal margined golden.
Length 148 mm. (Bleeker.)
East Indies.

fine, basal, not extended apically.

D. XI, I, I, 11, I or XI, I, I, 12, I,
third spine 2 to 2 ¹/₁₀ in total
head length, second branched
ray 2 to 2 ¹/₅; A. IV, 10, I or
IV, 11, I, third spine 2 ⁷/₈ to 3 ¹/₅,
second branched ray 2 ¹/₁₀; caudal
1 ⁴/₅ to 2, well forked, lobes
pointed; least depth of caudal
peduncle 5; pectoral 1 ²/₃ to 2;
ventral 1 ²/₃ to 2.

Light brown on back, sides
and below paler or brassy brown.
Iris brassy brown. Fins all
pale brown.

Mauritius, China, Formosa,
Japan.

depth $2\frac{1}{4}$ in eye.

Scales 50 in lateral line, 3 above, 15 below, 7 rows on cheek of which 3 on preopercle flange; predorsal scales extend forward till opposite eye center.

♂ D. X, 9 or 10, fourth spine $2\frac{1}{4}$ in head, seventh ray $1\frac{3}{4}$; A. III, 7 or 8, third spine $2\frac{4}{5}$, first ray $2\frac{2}{5}$; caudal $1\frac{1}{8}$, emarginate, lobes pointed; least depth of caudal peduncle $2\frac{3}{4}$; pectoral $1\frac{1}{5}$; ventral 1, first ray ends in short filament.

Brown or rosy above, below rosy or silvery. Iris yellow or rosy. Broad median lateral band from snout tip through eye to caudal base, above brownish and below golden, edged narrowly pale both above and below. Blue dots along lateral line.

576
U. S. N. M., No. 7317. Hakodadi,
Japan. William Stimpson. Length
109 mm.

U. S. N. M., No. 57562. Japan.
P. L. Jouy. Length 162 mm.

U. S. N. M., No. 59804. Kochi,
Japan. Dr. H. M. Smith. Length
110 mm.

¹²⁹
~~Pentapodus hellmuthii (Bleeker)~~
~~Heterognathodon hellmuthii Bleeker,~~
~~Natuurk. Tijdschr. Nederland. Indië,~~
~~vol. 5, 1853, p. 75. Sawajing, Solor, $\frac{1}{m}$~~
~~Günther, Cat. Fishes Brit. Mus., vol. 1,~~
~~1859, p. 364 (compiled).~~

Pentapus hellmuthii Bleeker, Atlas
 Ichth. Ind. Néerland., vol. 8, 1876-77,
 p. 102, pl. (67) 545, fig. 1 (Bamba,
 Solor).

Pentapus hellmuthii Fowler, Mem.
 Bishop Mus., vol. 10, 1925, p. 218 (copied
Bleeker).

Depth $3\frac{2}{3}$; head $3\frac{2}{5}$ to $3\frac{4}{5}$. Snout
 $3\frac{2}{5}$ in head; eye $3\frac{3}{4}$, $1\frac{1}{10}$ in snout,
 little greater to equal to interorbital;
 maxillary reaches $\frac{3}{4}$ to eye, ^{expansion} $2\frac{1}{2}$ in
 eye, length $3\frac{1}{4}$ in head; 2 or 3 small
 curved upper front canines; interorbital
 low; preopercle edge entire; suborbital

577

Ostichthys pillwaxii (Steindachner)

Myripristis pillwaxii Steindachner,
Sitzb. Ber. Akad. Wiss. Wien, vol. 102,
pt. 1, p. 215, pl. 1, 1893 (type locality,
Honolulu).

Ostichthys pillwaxii Jordan and Evermann,
Bull. U. S. Fish Comm., vol. 23, pt. 1, p.
147, 1893 (1895) (Honolulu). — Jordan
and Snyder, Bull. Bur. Fisher., vol.
26, p. 208, 1906 (1907) (Honolulu).

Ostichthys japonicus (not Schlegel) Fowler,
Mem. Bishop Mus., vol. 10, p. 97, pl. 6A,
1928 (Honolulu).

below lateral line, second through
 axial region and third and fourth
 at levels of pectoral base. ^{Blood red shades on opercular margin.} Vertical
 fins reddish terminally. Dorsal largely
 olivaceous. Paired fins slightly dusky,
 pectoral somewhat yellowish.

5543. Catangian Bay, Masbate. April
 18, 1908. Length 310 mm.

5 examples. Catangian Bay. April 18,
 1908. Length 52 to 79 mm. Show besides
 dark transverse bars also 5 or 6
 longitudinal pale broad whitish bands.

10604, 10605, 10708, 10110. Catangian Bay.
 April 19, 1908. Length 68 to 133 mm. 4 examples.

5495, 5496, 6819 to 6822, 7596, 15891.

Depth $2\frac{2}{5}$; head $2\frac{2}{5}$, width 2.
 Snout $3\frac{1}{3}$ in head from snout
 tip; eye $4\frac{1}{5}$, $1\frac{1}{5}$ in snout,
 greatly exceeds interorbital;
 maxillary reaches $\frac{3}{4}$ in eye,
 expansion $1\frac{1}{8}$ in eye, length 2 in
 head from snout tip; interorbital
 7, low, very slightly convex.
 Gill rakers 7 + 13, of which 6
 above and 8 below rudiments;
 $\frac{1}{2}$ of gill filaments, which $1\frac{1}{2}$
 in eye.

Scales 28 in lateral line
 to caudal base and 5 more on
 latter; 4 above, 8 below, 7
 predorsal, 5 rows on cheeks.
 Scales without basal points;
 row of 27 to 30 slender apical
 denticles, each with long slender
 basal element; circuli basal,

5785 [1984]. Hinalue Island.
September 22, 1909. Length 223 mm.
Pale yellow band from maxillary
to lower eye edge and then from
lower eye edge to pectoral base.

P. 9839 [1081]. Pagayan Sulu Island.

January 8, 1909. L Length 225 mm.

12515. Polloc, Mindanao. May 22,

1908. L Length 180 mm.

68247 U.S.N.M. Iaha, Okinawa, Riu

Kiu. Bur. Fisher. Albatross 1906. Length

222 mm. Type of Pentapus formosulus
Snyder.

579

very fine, not extended apically.

D. XIII, I, 13, I, third spine $2\frac{1}{4}$ in total head, second branched ray $2\frac{1}{2}$; A. IV, I, 10, I, third spine $3\frac{1}{3}$, first branched ray $2\frac{1}{2}$; caudal 2, deeply forked, lobes broadly triangular; least depth of caudal peduncle 5; pectoral 2; ventral $2\frac{1}{4}$.

Largely pale or golden brown. Each scale with round yellowish basal spot, formed as longitudinal rows and smaller toward caudal peduncle. Iris light or pale yellowish brown, also fins.

Hawaiian Islands. Evidently distinguished from Ostichthys japonicus by the presence of a golden round spot on each

whitish.

East Indies, Philippines, Riu Kiu.

Greatly like Pentapodus nemurus though differs at once in the structure of its caudal fin. This, though with long slender pointed lobes of which the upper always the longer, does not end in a long filament above and below. No markings evident in alcoholic specimens except the median lateral yellow band.

6519 to 6521. Sulibijaban Island, Ragay Gulf, Luzon. March 6, 1909. Length 205 to 208 mm.

9840 to 9843. Lagayan, Sulu Island. January 8, 1908. Length 163 to 198 mm.

8975. Murcielago Bay, Mindanao. August 20, 1909. Length 200 mm.

scale exposure.

U. S. N. M., No. 52746. Hawaiian
Islands. Bureau of Fisheries
(05500). Length 300 mm.

267

3 series of basal elements; circuli very fine.

D. 8, 9, 1, fourth spine $2\frac{1}{8}$ to $2\frac{1}{5}$ in head, first ray $2\frac{1}{5}$ to $2\frac{1}{3}$; A. III, 7, 1, third spine $2\frac{7}{8}$ to 3, first ray $2\frac{1}{4}$ to $2\frac{7}{8}$; least depth of caudal peduncle $2\frac{1}{2}$ to $2\frac{3}{5}$; pectoral $1\frac{1}{3}$; ventral $1\frac{1}{10}$ to $1\frac{1}{5}$; caudal $2\frac{7}{8}$ to 3 in combined head and body to caudal base, deeply emarginate, upper lobe little longer and lobes without filaments.

Back drab brown to fawn color or tawny, below whitish. Pale yellowish band about wide as pupil, ill defined, extends from snout tip to middle of caudal base. Iris yellowish. Fins all very pale or light brownish, ventrals and anals more or less

581

Astichthys archiepiscopus (Valenciennes)


Myripristis archiepiscopus Valenciennes,
Compt. rend. Acad. Sci. Paris, vol.
54, p. 1169, June 9, 1862 (type
locality, Mauritius). — Guichenot,
Notes Ile Réunion, vol. 2, p. 24, 1862.
— Bleeker, Rés. Faun. Madagascar,
Pollen et Van Dam, pt. 4, p. 86,
1874 (reference).

Holotrachys archiepiscopus Sauvage,
Hist. Nat. Madagascar, Paris, p. 27,
pl. 4, fig. 2, 1891 (type).

vermilion, membranes mostly transparent. Ventrals very pale, slightly reddish on rays.

6179, 16402, 16403. Mansalay,

Mindoro. June 4, 1908. Length 102 to 269 mm.

7225 and 7226.  Masinloc Bay,

Port Natalvi, Zambales. November 22-23, 1908. Length 227 to 277 mm. Dusky yellowish shades above, fading to more or less brassy, most distinct in smaller example. Broad scarlet or bronze stripe across preorbital, from eye to snout, below nostril. Bronze and orange markings around and behind eye. Inside mouth, also maxillary membranes,

Depth $2\frac{2}{3}$; head $2\frac{1}{3}$. Snout $3\frac{1}{2}$ in head from snout tip; eye $4\frac{1}{3}$, $1\frac{1}{4}$ in snout; maxillary apparently would reach $\frac{1}{2}$ in eye, expansion $1\frac{1}{5}$ in eye, length $2\frac{1}{5}$ in head from snout tip; interorbital very low; opercular spine $\frac{1}{2}$ of eye.

Scales in lateral line 27 to caudal base and ~~27~~ 3 more on latter; 3 above, 6 below, 5 rows on cheek.

D. XI, I, 12, I, second spine $2\frac{1}{2}$ in total head length, first branched anal ray 3; A. IV, 10, I, fourth spine $3\frac{7}{8}$; caudal 2, little emarginate behind; least depth of caudal peduncle $5\frac{1}{4}$; pectoral $2\frac{1}{4}$, rays I, 11; ventral 2, ~~in~~ total head, rays I, 7.

Dentex blochii Bleeker, Natuurk. Tijdschr.
Nederl. Indië, vol. 2, 1851, p. 176.

Batavia; Verhandel. Batavia. Genootsch.
(Nal. Ichth. Bengal), vol. 25, 1853, p. 38.

¹/₂ Fowler, Journ. Acad. Nat. Sci.

²/₃ Philadelphia, series 2, vol. 12, 1904, p.

527 (Padang); Proc. Acad. Nat. Sci.

Philadelphia, 1929 (1930), p. 609 (Hong
Kong).

Dentex blochii Bleeker, Atlas Ichth.
Ind. Néerland., vol. 8, 1876-77, p. 90, pl.

(52) 330, fig. 1 (Sumatra, Java, Singapore).

Synagris grammicus Day, Fishes of Malabar,
1865, p. 26, pl. 4. Cochin on the Malabar
coast.

Heterognathodon gulininda (not Cantor)

Ishikawa and Matsumura, Prelim. Cat.

Fishes Tokyo Mus., 1897, p. 54.

583

Red, with 9 golden longitudinal
bands along sides. Length
320 mm. (Sawage.)

Mauritius.

Cantharus filamentosus Rüppell, Atlas
Reise nordl. Afrika, Fische, 1828, p. 50,
pl. 12, fig. 3. Red Sea.

Synagris filamentosus Günther, Cat.
Fishes Brit. Mus., vol. 1, 1859, p. 378 (compiled).

Dentex (Heterognathodon) filamentosus
Steindachner, Sitz. Ber. Akad. Wiss. Wien,
math.-naturwiss. Klasse, vol. 57, pt. 1, 1868,
p. 976 (Mauritius).

Klunzinger, Verhandl. zool. botan. Gesell.
Wien, vol. 20, 1870, p. 766 (Koseir, Red Sea).

Dentex bipunctatus (Ehrenberg) Valenciennes,
Hist. Nat. Poiss., vol. 6, 1830, p. 247. Djédda.

Rüppell, Neue Wirbelth., Fische, 1835,
p. 114 (note).

Dentex tumbulus Valenciennes, Hist. Nat.
Poiss., vol. 6, 1830, p. 249 (on Bloch), p. 558
(note).

584

Ostichthys trachypoma (Günther)

Myriopristis trachypoma Günther,
Cat. Fish. Brit. Mus., vol. 1, p. 25,
1859 (type locality, Cuba; West Indies).
— Jordan and Evermann, Bull. U. S. Nat.
Mus., 20.47, pt. 1, p. 846, 1895 (copied).

Myriopristis fulgens Poey. Mem. Hist.
Nat. Poiss., vol. 2, p. 160, 1860 (type
locality, Cuba).

(1336)

20870. Jolo market, March 7, 1908.
Length 170 mm.

148. Lango Point, Luzon. June 24, 1909.
Length 183 mm.

11871. Malabang market. May 22, 1908.
Length 140 mm.

8367. Malapascua Island.
March 16, 1909. Length 237 mm. Four
reddish longitudinal bands on
side and another less defined above
lateral line.

Depth 2 to $2\frac{1}{4}$; head $2\frac{1}{4}$ to $2\frac{2}{5}$, width $1\frac{9}{10}$ to $2\frac{1}{10}$. Snout $5\frac{1}{10}$ to $5\frac{1}{8}$ in head from snout tip; eye $3\frac{1}{6}$ to $3\frac{2}{5}$, greatly exceeds snout or interorbital; maxillary reaches $\frac{4}{5}$ to or to hind eye edge, expansion $1\frac{1}{5}$ to $1\frac{1}{4}$ in eye, length $1\frac{7}{8}$ to $1\frac{9}{10}$ in head from snout tip; interorbital $5\frac{3}{5}$ to 6, low, very slightly convex. Gill rakers 10 ± 15 , lanceolate, $1\frac{1}{2}$ in eye; gill filaments $\frac{2}{3}$ of gill rakers.

Scales 29 in lateral line to caudal base and 4 or 5 more on latter; 4 above, 8 below, 9 predorsal, 4 or 5 rows on cheeks. Scales without or with only rudimentary basal points; row of 33 to 35 apical denticles,

as still larger medial canines; also pair of low or short wide set canines in lower jaw, slightly flaring outward; interorbital $2\frac{1}{2}$ to $2\frac{4}{5}$, broadly and slightly convex; preopercle edge entire; single moderate, flattened opercular spine. Gill rakers $4 + 5$, short, finely spinescent tubercles, about $\frac{1}{3}$ of gill filaments, which $1\frac{4}{5}$ in eye.

Scales 44 or 45 in lateral line to caudal base and 1 to 3 more on latter; 3 or 4 above, 13 below, 26 to 36 predorsal forward above nostrils, 10 or 11 rows across cheek to preopercle edge of which 3 rows on preopercle flange. Suprascapula with slightly crenulated edge. Scales with 6 or 7 basal radiating striae; 105 to 120 apical denticles, small, with 2 or

with long slender rod-like basal elements; cirruli very fine, basal, not extended apically.

D. XI, I, I, 12, I, or XI, I, I, 13, I,
third spine $2\frac{1}{8}$ to $2\frac{1}{3}$ in total head length, second branched ray $2\frac{1}{4}$ to $2\frac{1}{3}$; A. IV, 11, I,
third spine $2\frac{2}{5}$ to $2\frac{4}{5}$, second branched ray $2\frac{1}{4}$ to $2\frac{1}{3}$; caudal $1\frac{2}{3}$ to $1\frac{3}{4}$, well forked, lobes sharp pointed; least depth of caudal peduncle $4\frac{4}{5}$ to $4\frac{7}{8}$; pectoral $1\frac{2}{5}$ to $1\frac{3}{4}$; ventral $1\frac{4}{5}$ to $1\frac{7}{8}$.

Light golden brown. Each row of scales with dark broad median longitudinal band, alternating with pale one at scale junctures. Iris

265

Case¹⁷⁹ Pentapodus macrurus (Bleeker)
Heterognathodon macrurus Bleeker,
Natuurk. Tijdschr. Nederland. Indië,
vol. 1, 1851, p. 101. Batavia, Java.
 $\frac{1}{m}$ Günther, Cat. Fishes Brit. Mus.,
vol. 1, 1859, p. 363 (compiled).

Pentapus macrurus Bleeker, Atlas
Ichth. Ind. Néerland., vol. 8, 1876-77,
p. 103, pl. (62) 340, fig. 4 (Java).

Depth $3\frac{1}{5}$ to $3\frac{2}{5}$; head $3\frac{1}{2}$ to $3\frac{3}{5}$,
width $1\frac{2}{3}$ to $1\frac{4}{5}$. Snout $3\frac{1}{8}$ to $3\frac{1}{4}$
in head; eye $3\frac{1}{4}$ to $3\frac{2}{5}$, -greater
than snout to equal with age, 1 to $1\frac{1}{8}$
in interorbital; maxillary not
quite or reaching opposite front
eye edge, expansion $2\frac{3}{4}$ to 3 in eye,
length 3 to $3\frac{1}{4}$ in head; teeth fine,
in narrow bands in jaws, anteriorly
about 5 to 7 irregular rows with
outermost row enlarged, of it 3 or 4

golden. Fins uniformly pale or
or light golden yellow. 584

Cuba, West Indies.

U. S. N. M., No. 12546, Cuba.

Prof. F. Poey. Length 212 mm.

U. S. N. M., No. 19804, Cuba.

Prof. F. Poey. Length 153 mm.

U. S. N. M., No. 24942, Cuba.

Prof. F. Poey. Length 185 mm.

5 rows on cheek to preopercle ridge,
preopercle flange naked.

D. X, 10, fourth spine $2\frac{2}{3}$ in head,
first ray $2\frac{1}{10}$; A. III, 8, third spine
 $4\frac{1}{10}$, first ray $3\frac{2}{5}$; caudal $1\frac{1}{10}$, forked,
lobes pointed; least depth of caudal
peduncle 5; pectoral $1\frac{2}{5}$; ventral $1\frac{4}{5}$.

Back slate brown, below white.

Very dusky longitudinal band
from snout tip over opercle, axial
on body to caudal base medially.

Iris yellow. Fins pale. Length 1.5 mm.

(Young and Larvae.)

West Australia, North West Australia,
Northern Territory.

Ostichthys australis (Castelnau)

^{Myripristis}
~~Ostichthys~~ australis Castelnau, Viet.
 Offic. Rec. Philadelphia Exhib. (Res.
 Fish. Australia), p. 4, 1875 (type
 locality, Cape York).

— McCulloch and Whitley, Mem.
 Queensland Mus., vol. 8, pt. 2, p. 139,
 July 7, 1925 (reference). — McCulloch,
 Mem. Austral. Mus., ^{vol.} 15, pt. 1, p. 134,
 June 29, 1929 (reference).

Myripristis australis Macleay, Proc. Linn.
 Soc. New South Wales, vol. 5, pt. 4, p. 513,
 September November 24, 1880 (copied).

Ostichthys australis ←

(2052)

mouth red. Dorsal with bright
vermilion shades; spinous portion
clear, vermillion showing both on
membranes and spines; only soft
fin bright. Anals orange, bright
only at margin. Caudal dusky vermillion.
Pectoral clear orange, dusky in axil,
shows slightly at upper base above
fifth ray. Ventral very pale.

11697, 11698. Capunaypungan Point,
Mindanao. May 10, 1908. Length 158 to 178 mm.

11843. Caracaran, Batan Island.
June 8, 1909. Length 203 mm.

12088. Cavite market. December 1, 1908.
Length 156 mm.

Depth $2\frac{1}{4}$. Eye little over 2 in head; interocular space 3; maxillary denticulate; opercle with small angle, without spine, above angle striated and edge crenulated.

Scales 33 in lateral line; large, long, strongly crenated.

D. X, I, 14; A. IV, 13; caudal deeply forked.

Silvery pink, beneath white. Each scale of back with broad edge of dark purple. Length 100 mm. (Macleay.)

1760. D. 5270. Escarceo Light, S. 90° E., 4.25 miles (13° 35' 45" N., 120° 58' 30" E.).

June 8, 1908. Length 105 mm.

3259 to 3261. D. 5360. Corregidor Light, N. 74° W., 6.9 miles (14° 21' N., 120° 41' E.), Luzon. February 8, 1909. Length 103 to 110 mm.

8569. D. 5442. San Fernando Point Light, N. 39° E., 8.4 miles (16° 30' 36" N., 120° 11' 06" E.), Luzon. March 11, 1909. Length 270 mm.

8479 [1370]. Santo Domingo de Basco, Batan Island. November 7, 1908. Length 163 mm.

6824. Hong Kong market, China. September 26, 1908. Length 205 mm.

11460. Kowloon, China. September 8, 1908. Length 127 mm.

47596 U.S.N.M. Red Sea. L.M. McCormick. Length 190 to 200 mm. 3 examples.

Genus Holotrachys Günther -

590

Holotrachys Günther, Journ. Mus.
Godeffroy, vols. 2-3, pts. 5-6, p. 93, 1874.
(Type Myripristis lima Valenciennes,
monotypic).

Harpag De Vis, Proc. Linn. Soc. New
South Wales, vol. 8, p. 447, 1884.
(Type Harpag rosea De Vis, monotypic)
(Harpagus Vigors 1824 in Nes;
Stephens 1834 in Lepidoptera;
irrelevant.)

Body oblong, compressed. Head compressed, subconic. Snout short, blunt. Eye high, advanced. Mouth large, low, little inclined, or lower slightly protruded. jaws nearly equal, maxillary reaches below hind eye edge. Interorbital narrow. Teeth blunt, conic, pavement-like teeth on jaws, vomer and palatines. Lower gill rakers 16. Scales with very rough edges, each with rather long sharp spines, 42 to 44 in lateral line. Lateral line complete, nearly axial along side of body. dorsal spines 12, lower than soft fin. Third anal spine longest, soft fin like soft dorsal. Caudal small, emarginate. Paired fins moderate, subequal. One species.

Scales 43 to 47 in lateral line to caudal base and 1 to 7 more on latter, 4 or 5 above, 10 or 11 below, 12 to 15 predorsal extend forward midway in eye, 3 rows on cheek and preopercle flange broadly naked; caudal more or less finely scaly. Suprascapula entire, venulose, likewise scales above to occiput and forward to eyes, besides those bordering interorbital; likewise preorbital, interorbital and preopercle flange venulose. Scales with 5 to 7 basal radiating striae; 36 to 80 feeble minute apical denticles, with 8 to 14 transverse series of basal elements; circuli fine.

D. IX, 9, I, rarely IX, 8, I, fifth spine $2\frac{1}{2}$ to $3\frac{1}{4}$ in head, first ray $2\frac{7}{8}$ to 3, last ray 2 to $2\frac{1}{5}$; A. III, rarely

592

Holotrachys lima (Valenciennes)

Myripristis lima Valenciennes, Hist. Nat. Poiss., vol. 7, p. 493, 1831 (type locality, Mauritius). — Bleeker, Rés. Poiss. Madagascar, Pollen et Van Dam, pt. 4, p. 86, 1874 (reference). — Pöhl, Cat. Mus. Godeffroy, no. 9, p. 30, 1884 (Samoa).

Myripristis (Holotrachys) lima Günther, Journ. Mus. Godeffroy, vol. 2-3, pts. 5-6, p. 93, pl. 63, fig. A, 1874 (Kingsmills, Samoa, Society, Hawaiian Islands). — Schmeltz, Cat. Mus. Godeffroy, no. 6, p. 11, 1877 (Huahine). — Weber and Beaufort, Fishes Indo Austral. Archip., vol. 5, p. 252, 1929 (Banda).

Myripristis (Holotrachis) lima Steindachner, Denks. Akad. Wiss. Wien., vol. 70, p. 492, 1901 (Honolulu).

Holotrachys lima Sauvage, Hist. nat.
Madagascar, Poiss., p. 25, ~~1894~~ pl. 3, figs.
1, a - B, 1891 (evidently type).
— Seale, Occas. Pap. Bishop Mus.,
vol. 1, no. 5, pp. 18, 20, 21, 1902 (Honolulu).
— Jenkins, Bull. Bur. Fisher., vol. 22,
p. 439, 1902 (1903) (Honolulu). —
Snyder, Bull. Bur. Fisher., vol. 22,
p. 523, 1902 (1904) (Honolulu; Laysan).
— Fowler, Proc. Acad. Nat. Sci.
Philadelphia, p. 224, 1904 (Hawaii).
— Jordan and Evermann, Bull. U.S.
Fish Comm., vol. 23, pt. 1, p. 147, pl. 4,
1903 (1905) (Honolulu, Hilo, Kailua,
Samoa). — Steindachner, Denks. Akad.
Wiss. Wien, vol. 115, pt. 1, p. 1374, 1906
(Upolu). — Fowler and Silvester, Marine
Pap. Carnegie Inst., p. 116, 1922 (Pago
Pago). — Fowler, Copeia, no. 113, p. 82,
November 20, 1922 (Hawaii); Bull.
Bishop Mus., no. 22, p. 24, 1925 (Honolulu);
Mem. Bishop Mus., vol. 10, p. 105, 1928
(Honolulu; Laysan; Apia; Society
Islands); vol. 11, no. 5, p. 323, 1931
(reference).

Myripristis humilis Kner and Steindachner,
Sitzs. Ber. Akad. Wiss. Wien, vol. 54,
pt. 1, p. 357, pl. 1, fig. 1, 1866 (type
locality, Samoa).

Harpage rosea De Vis, Proc. Linn.
Soc. New South Wales, vol. 8, p. 447, 1883
(type locality, South Sea Islands);
Mem. Bishop Mus., vol. 10, p. 109, 1928
(copied).

Depth $2\frac{1}{5}$ to $2\frac{1}{2}$; head $2\frac{1}{2}$ to $2\frac{2}{3}$,
width $1\frac{2}{5}$ to $1\frac{4}{5}$. Snout 5 to $5\frac{1}{8}$ in
head; eye $3\frac{3}{4}$ to 4, greater than
snout or interorbital; maxillary
reaches $\frac{1}{2}$ to $\frac{3}{5}$ eye diameters
beyond eye, expansion 1 to $1\frac{1}{8}$ in eye,
length $1\frac{3}{4}$ to $1\frac{4}{5}$ in head; interorbital
6 to $6\frac{3}{4}$, low, nearly level; opercular
spines 2, upper larger and longer.
Gill rakers 7+16, of which 2 or 3
above and below rudimentary, $\frac{1}{2}$ of
eye; gill filaments $\frac{4}{5}$ of gill rakers.

Scales 40 or 41 in lateral line to
caudal base and 2 or 3 more on latter;
5 above, 10 below, 8 predorsal forward

to occiput, 5 rows of cheek. Scales with row of 7 or 8 large subequal more or less even denticles apically; very fine basal parallel vertical striae numerous.

D. XII, 15, I, third spine 3 to $3\frac{1}{3}$ in head, third branched ray $2\frac{1}{5}$ to $2\frac{1}{2}$; A. IV, 11, I, third spine 3, third ray 2 to $2\frac{2}{3}$; caudal $1\frac{2}{3}$ to 2, emarginate, lobes rounded; least depth of caudal peduncle 4 to $4\frac{4}{5}$; pectoral $1\frac{3}{4}$ to $1\frac{4}{5}$; ventral 2.

Uniform brown, pale in alcohol. Fins pale to more or less dull or light yellowish brown. Iris pale.

Mauritius, Madagascar, East Indies, Melanesia, Polynesia, Hawaii. Although Sauvage gives "L. lat., 36" his figure shows at

82

border of gill opening little darker brown than adjoining color. Below last dorsal spines or front dorsal rays, close below lateral line, a large dusky neutral to blackish blotch 7 to 9 scales long and about 4 deep. Fins pale brown.

Red Sea, Madagascar, India, East Indies, Philippines, Australia, Micronesia, Melanesia, Polynesia. My series of specimens shows the quite variable eye often small in the young and large in larger examples. The species may be known by the characteristic large dark blotch, always greater than the eye, above the end of the depressed pectoral fin. In profile the head is deep, though with rather projected snout. It is well figured by Günther as Lethrinus bankamensis. Rüppell's

least 40 scales to the caudal
base. It also shows the maxillary
extended a little more backward
of the eye.

396

Depth $2\frac{4}{5}$ to $3\frac{1}{4}$; head $2\frac{4}{5}$ to $3\frac{1}{4}$, width $1\frac{3}{5}$ to $2\frac{1}{4}$. Snout $2\frac{2}{3}$ to $3\frac{2}{3}$ in head; eye $3\frac{1}{10}$ to 4, 1 to $1\frac{1}{4}$ in snout, little greater than interorbital; maxillary reaches $\frac{1}{5}$ to $\frac{1}{4}$ in eye, expansion $1\frac{1}{3}$ to $2\frac{1}{2}$ in eye, length $2\frac{1}{2}$ to 3 in head; teeth in villiform bands in jaws of 4 or 5 irregular series, above outer enlarged series with 8 front canines, none below nor outer lower teeth enlarged; interorbital $4\frac{1}{2}$ to 5, but slightly elevated and level to slightly depressed medially; hind preopercle edge minutely though distinctly serrated, lower edge entire, crenulations minute; opercle ends in broad flat point; suborbital depth $\frac{3}{4}$ of eye. Gill rakers 5 or 6 + 7 to 10, short, compressed, prickly, lanceolate, $\frac{1}{3}$ of gill filaments, which $1\frac{1}{4}$ in eye.

597

U. S. N. M., No. 51047. Hawaiian
Islands. U. S. Fish Comm. Length
115 to 128 mm. Two examples.

U. S. N. M., No. 52415. Lipia.
Bureau of Fisheries. Length 102 to
132 mm. Three examples.

U. S. N. M., No. 55297. Hawaiian
Islands. Length 120 mm.

U. S. N. M., No. 55449. Honolulu.
Albatross Collection. 1902. Length
125 mm.

U. S. N. M., No. 55450. Laysan.
Albatross Collection. Length 94 mm.

6 above, 14 or 15 below, 9 or 10 predorsal; caudal and pectoral bases finely scaled. Scales with 12 to 15 basal radiating striae, sometimes 4 to 9 incomplete auxiliaries, 113 to 171 apical denticles, with 4 to 8 transverse series of basal elements; circuli fine.

D. X, 9, I, fourth spine $2\frac{3}{4}$ to $3\frac{1}{10}$ in head, fourth ray $2\frac{2}{3}$ to $2\frac{7}{8}$; A. III, 8, I, third spine $3\frac{1}{3}$ to $3\frac{4}{5}$, first ray $2\frac{7}{8}$ to $3\frac{1}{3}$; caudal $1\frac{1}{3}$ to $1\frac{2}{5}$, emarginate; least depth of caudal peduncle 3 to $3\frac{1}{10}$; pectoral $1\frac{1}{10}$ to $1\frac{1}{8}$; ventral $1\frac{2}{5}$ to $1\frac{1}{2}$.

Body rather pale brown, lower surface whitish. Each scale on body, at least on back and sides, with darker margin. Head rather dull drab brown above and on sides, below pale to whitish. Iris yellowish brown. Hind

598

Genus Myripristis Cuvier

Myripristis Cuvier, Hist. nat. Poiss.,
vol. 3, p. 119, 1829. (Type Myripristis
jacobus Cuvier, designated by Jordan
and Evermann, Genera of Fishes,
pt. 1, p. 127, 1917.)

Myriopristis Gill, Proc. Acad. Nat.
Sci. Philadelphia, p. 83, 1863. (Type
Myripristis jacobus Cuvier.)

Rhamphoberyx Gill, Proc. Acad. Nat.
Sci. Philadelphia, p. 87, 1863. (Type
Rhamphoberyx poecilopus Gill, designated
by Jordan, Genera of Fishes, pt. 3, p.
324, 1919.)

Neomyripristis Castelnau, Proc. Zool.
Acclimatiz. Soc. Victoria, vol. 2, p. 98,
1873. (Type Neomyripristis
amoenus Castelnau, monotypic.)

Body oblong, compressed, back more or less arched. Caudal peduncle slender. Head somewhat compressed. Muzzle short. Eye usually large. Mouth cleft moderate, oblique, lower jaw slightly included, chin prominent. Bands of villiform teeth in both jaws and on vomer and palatines. Opercular bones serrated. Opercle usually with flat spine. Preopercle without long spine. Branchiostegals 7 or 8. Air bladder divided by contraction, front part extending to otocrane. Pyloric coeca moderate. Scales large, ctenoid. Dorsals 2, scarcely united or separated by deep notch, spinous fin with 12 spines and soft fin with spine and 12 or more branched rays. Anal spines 4,

Lethrinus erythropterus Valenciennes,
Hist. Nat. Poiss.,
p. cit., vol. 6, 1830, p. 313. Ulea.

? *Lethrinus erythrophthalmus* Kittlitz,
Denkwerte. Reisen Mikrones., vol. 2, 1858,
p. 87. Senjauins Island in N. Lat. 6° W.
Long. $20\frac{1}{2}^{\circ}$.

rays 11 to 15. Caudal forked.
Pectoral with weak flexible spine
and 14 to 16 branched rays. Ventral
with long, slender spine and 7
branched rays.

Tropical Indo Pacific and a
few species in the tropical Atlantic.
The Cretaceous English fossils
Homonotus Dixon and
Trachichthyoides, are supposed
to be allied with the present
genus.

The following I have been unable
to locate with description or figure:

Myripristis refulgens Valenciennes

Myripristis refulgens Guichenot,
Notes Ile Réunion, vol. 2, p. 24, 1862. —
Bleeker, Rés. Poiss. Madagascar, Pollen
et Van Dam, pt. 4, p. 86, 1874 (reference).

tubercles, about $\frac{1}{3}$ of gill filaments, which $2\frac{1}{3}$ in eye.

Scales 43 or 44 in lateral line to caudal base and 1 to 3 more on latter; 6 above, 14 to 16 below, 7 to 9 predorsal; caudal and pectoral bases finely scaled. Scales with 14 to 20 basal radiating striae, with 2 to 5 auxiliaries; 106 to 183 apical denticles, with 4 to 10 transverse series of basal elements; circuli fine.

D. X, 9, I, fourth spine $2\frac{2}{5}$ to $3\frac{1}{8}$ in head, fourth ray $2\frac{1}{4}$ to $2\frac{1}{2}$; A. III, 8, I, third spine $2\frac{3}{4}$ to $3\frac{1}{5}$, fourth ray $2\frac{2}{3}$ to $2\frac{7}{8}$; caudal $1\frac{1}{5}$ to $1\frac{1}{3}$, well emarginate; least depth of caudal peduncle $2\frac{3}{4}$ to $2\frac{4}{5}$; pectoral 1 to $1\frac{1}{10}$; ventral $1\frac{1}{5}$ to $1\frac{1}{3}$.

Body pale brown, but slightly lighter below, otherwise uniform.

Analysis of Species

a.¹ First dorsal with X spines
(D. X, I, 12 to 17; A. IV, 11 to 14).

b.¹ Lateral line 40 to 42.

c.¹ Dorsal rays 16; opercular border
and humeral region with black bar.
kuntzei.

c.² Dorsal rays 12 or 13; opercular
border and humeral region without
black.
occidentalis.

b.² Lateral line 34 to 40.

d.¹ Dorsal rays 12 to 14.

e.¹ Lower gill rakers 20.

f.¹ Depth $2\frac{3}{4}$ to $2\frac{4}{5}$.

g.¹ Maxillary reaches $\frac{3}{5}$ to $\frac{3}{4}$ in eye.
pocilopus.

g.² Maxillary reaches $\frac{3}{4}$ to hind
eye edge.
chryseres.

f.² Depth $2\frac{1}{3}$ to $2\frac{1}{2}$; maxillary reaches
 $\frac{3}{5}$ to $\frac{2}{3}$ in eye.
jacobus.

Gerres argyreus (Schneider)

Cichla argyrea Schneider, Syst. Ichth.

Block, 1801, p. 344. Tanna Island,

Pacific Island.

Sciaena argyrea (Forster) Schneider,

Syst. Ichth. Block,

op. cit., 1801, p. 344 (name in synonymy).

$\frac{1}{m}$ Lichtenstein, Descript. Animal. Forster,

1844, p. 291 (Tanna Island).

Gerres argyreus Cuvier, Hist. Nat. Poiss.,

vol. 6, 1830, p. 366⁴⁷⁸ (Waigiu; Strong Island).

$\frac{1}{m}$ Günther, Cat. Fishes Brit. Mus., vol. 1, 1859,

p. 353 (Port Jackson); vol. 4, 1862, p. 363

(Port Jackson). $\frac{1}{m}$ Quoy, Notes Ile Réunion, vol. 2, 1862, p. 25.

Godeffroy, ^{no. 2, 1865, p. 6 (Lamoa)} Chmeltz, Cat. Museum

^{no. 4, 1869, p. 23 (Upolu)} Jouan, Mem. Soc. Sci. Cherbourg, series 2,

vol. 5, 1870, p. 106 (Veychelès). $\frac{1}{m}$ Klunzinger,

Verh. zool. bot. Gesell. Wien, vol. 20, 1870,

p. 773 (Koseir, Red Sea). $\frac{1}{m}$ Macleay, Proc.

Linn. Soc. New South Wales, vol. 4, 1879,

p. 60 (Solomons). $\frac{1}{m}$ Károli, Termesz.

602
l.² Fins and scales with black edges. acustus.

h.² Two patches of strong tubercular teeth on chin, besides others above on lower jaw.

j.² Head above completely rugose with arborescent ridges; lateral line 32. melanostictus.
trachyacron.

a.² First dorsal of XI spines (D. XI, I, 12 to 15; A. IV, 11 to 13).

m.¹ Scales 34 to 39 in lateral line.

n.¹ Anal rays 11.

o.¹ Dorsal rays 15; uniform red. carneus.

p.² Dorsal rays 13; carmine, with 5 or 6 blackish longitudinal bands. vittatus.

q.² Anal rays 12 or 13; uniform color.

r.¹ Dorsal rays 13 or 14; anal 12. axillaris.

s.² Dorsal rays 12; anal 13.

leiognathus.

482

Can 129 Dentex lineopunctatus Boulenger
Dentex lineopunctatus Boulenger, Ann.
South African Mus., vol. 3, 1903, p. 66,
pl. 6. Natal coast. $\frac{1}{m}$ Barnard, Ann. South
African Mus., vol. 21, pt. 2, 1927, p. 718
(Natal coast, 40 fathoms).
Dentex natalensis Gilchrist and Thompson,
Ann. South African Mus., vol. 6, 1908-11,
p. 156. Natal; Ann. Durban Mus., vol. 1,
pt. 4, 1917, p. 356 (reference). $\frac{1}{m}$ Fowler,
Proc. Acad. Nat. Sci. Philadelphia, 1925,
p. 240 (Delagoa Bay).

Depth $2\frac{1}{2}$; head $3\frac{4}{5}$, width $2\frac{1}{10}$.
Snout $2\frac{3}{4}$ in head; eye $3\frac{4}{5}$, $1\frac{1}{2}$ in
snout, $1\frac{1}{4}$ in interorbital; maxillary
reaches $\frac{4}{5}$ in snout, expansion $\frac{1}{2}$ of
eye, length $2\frac{7}{8}$ in head; 4 upper
front canines, 6 lower, row of outer
larger teeth, posterior partly molar
like and anteriorly inner band of

e.² Lower gill rakers 25 or 30;
maxillary reaches nearly or quite to
hind eye edge.

h.¹ Dorsal rays 13 or 14; anal 11.

hexagonus.

h.² Dorsal rays 12; anal 10.

intermedius.

d.² Dorsal rays 15 or 16.

i.¹ Red with white longitudinal bands;
maxillary reaches $\frac{3}{4}$ to $\frac{4}{5}$ in eye. pralinus.

i.² Golden, back gray; head and fins yellow;
maxillary reaches $\frac{1}{2}$ in eye. amaenus.

l.³ Lateral line 27 to 32.

j.¹ Head above with few ridges
bordering smooth areas, divided
radiating ridges posteriorly;
lateral line 27 to 30.

k.¹ Chin without teeth or only
a few rudiments; upper pair of
teeth patches usually absent.

l.¹ Fins and scales without
black edges. murdjan.

483

small pointed teeth; interorbital 3 in head, convex. Gill rakers $8+13$, lanceolate.

Scales 51 in lateral line to caudal base and 2 more on latter; 8 above, 16 below, 62 predorsal forward to front nostril, 8 rows across cheeks to preopercle edge and flange scaly. Scales with 9 basal striae; 96 to 147 apical points, with 18 to 22 transverse rows of basal segments.

D. XII, 10, I, fourth spine $1\frac{2}{3}$ in head, third ray $2\frac{1}{2}$; A. III, 7, I, second spine $2\frac{1}{2}$, second ray $2\frac{4}{5}$; ventral $1\frac{1}{3}$; caudal deeply emarginate, $2\frac{7}{8}$ in combined head and body to caudal base; pectoral $3\frac{1}{5}$.

Brown above, paler below. Along back and upper side each row of scales with median dark narrow-

m.² Scales 29 in lateral line;
anal rays 11; reddish pink, with
silvery line along each series of
scales.

baianus.

broad carmine margins. Caudal
violet. Pectoral reddish. Ventral
blue, spine red. Length about 170 mm.
(Valenciennes.)

Myripristis buntée Valenciennes

Myripristis buntée Valenciennes, Hist. Nat. Poiss., vol. 7, p. 487, 1831 (type locality, Mauritius). — Bleeker, Verh. Batavia. Genoot. (Nal. Ichth. Bengal), vol. 25, p. 32, 1853 (reference). Rés. Poiss. Madagascar, Pollen et Van Dam, pt. 4, p. 86, 1874 (Mauritius). — Sauvage, Hist. Nat. Madagascar, Poiss., p. 15, figs. 3, a - b, 1891 (type).

— Günther, Cat. Fish. Brit. Mus., vol. 1, p. 20, 1859 (copied). — ~~Bleeker~~
Playfair, Fishes of Zanzibar, p. 18, 1866 (reference). — Bleeker,

Depth $2\frac{1}{2}$; head 3. Snout
 5 in head from snout tip; eye
 $2\frac{1}{8}$, greatly exceeds snout;
 maxillary reaches $\frac{3}{4}$ in eye,
 expansion $1\frac{2}{3}$ in eye, length
 $1\frac{4}{5}$ in head from snout tip;
 interorbital low; opercular
 spines little or not developed,
 not shown on figure.

Scales 42 in lateral line
 to caudal base and 2 more on
 latter; 3 above, 7 below, 4 rows
 on cheek.

D. 8, 1, 16, 1, second spine 2
 in total head length, second
 branched ray $1\frac{7}{8}$; A. IV, 13
 (15, 1 soft rays on figure),
 second branched ray $1\frac{2}{3}$;
 fourth spine $2\frac{3}{4}$;
 caudal 1, deeply forked; least

encl 29

392

Synagris japonicus (Bloch)

Sparus japonicus Bloch, Naturges. Ausländ.
Fische, vol. 5, 1791, p. 110, pl. 277, fig. 1. no
locality. $\frac{1}{m}$ Forster, Fauna Indica, 1795, p.
15. $\frac{1}{n}$ Lacépède, Hist. nat. Poiss., vol. 4, 1802,
pp. 39, 127 (Japan).

Synagris japonicus Günther, Cat. Fishes Brit.
Mus., vol. 1, 1859, p. 378 (copied Bleeker). $\frac{1}{m}$
Steindachner, Sitz. Ber. Akad. Wiss. Wien,
Math.-naturwiss. Klasse, vol. 60, pt. 1, 1870,
p. 560 (Singapore). $\frac{1}{n}$ Day, Fishes of India,
pt. 1, 1875, p. 92, pl. 24, fig. 2 (type). —

Klunzinger, Fische Roth. Meer., 1884, p. 36.

$\frac{1}{m}$ Day, Fauna British India, Fishes, vol.
1, 1889, p. 527. $\frac{1}{n}$ Elera, Cat. Fauna

Filipinas, vol. 1, 1895, p. 478 (Luzon; Manila).

$\frac{1}{n}$ Synagris japonica Martens, Preuss. Exped.
Asien, 1876, p. 387 (Manila).

Synagris japonicus Károli, Termesz. Füzetek,
Budapest, vol. 5, 1881, p. 154 (Yokohama, Kobe, Singapore).

depth of caudal peduncle 4;
 pectoral $1\frac{1}{5}$, rays I, 14;
 ventral rays I, 6, fin $1\frac{2}{3}$ in
 total head length.

Rose color on back, mixed
 golden on sides. Black
 border to opercle and in pectoral
 axil black. Fins yellowish or
 orange, caudal more red.

Length 200 mm. (Sauvage.)
 Mauritius.

spine longest; caudal forked. Light
purplish red, most scales of back
purplish at base. Upper part of
head stained scarlet, which forms
pale curved band across occiput and
intense one bounding orbit below and
running over hind nostril. Gape
and within mouth, band across pectoral
base and axillary patch bright scarlet.
First dorsal and anal greenish,
passing into red toward edge. Caudal
broadly tinted red. Pectoral light
red. Ventral scarlet at base, rays
violet and webs brownish purple.

(De Vis.)

Queensland.

608

Myripristis occidentalis Gill

Myriopristis occidentalis Gill, Proc. Acad. Nat. Sci. Philadelphia, p. 87, 1863 (type locality, Cape Van Lucas).

Myripristis occidentalis Jordan, Proc. U. S. Nat. Mus., vol. , p. 376, 1885 (La Paz; Cape Van Lucas). —

Jordan and Evermann, Bull. U. S. Nat. Mus., vol. 47, pt. 1, p. 847, 1895 (copied).

Rhamphoberyx leucopus Gill, Proc. Acad. Nat. Sci. Philadelphia, p. 88, 1863 (type locality, Cape Van Lucas).

Myripristis clarionensis Gilbert, Proc. U. S. Nat. Mus., vol. 19, p. 441, pl. 49

(not 69 as in text), 1896 (type locality, Clarion Island). —

Jordan and Evermann, Bull. U. S. Fish Comm., No. 47, pt. 3, p. 2842, 1898.

— Jordan and Mc Gregor, Rep. U. S. Fish Comm., p. 275, 1898 (1899)

(Clarion Island; Vocorro Island). —

Snodgrass and Heller, Proc.

Washington Acad. Sci., vol. 6, p. 356, January 31, 1905 (compiled).

Myripristis sealei Jenkins, Bull.
U. S. Fish Comm., vol. 22, p. 439, fig.
13, 1902 (1903) (type locality,
Honolulu). — Jordan and Evermann,
Bull. U. S. Fish Comm., vol. 23, pt. 1,
p. 151, 1903 (1905) (type). — Fowler,
Mem. Bishop Mus., vol. 10, p. 109,
1928 (type).

Depth $2\frac{1}{2}$ to $2\frac{4}{5}$; head $2\frac{4}{5}$ to 3,
width $1\frac{4}{5}$ to 2. Snout 5 to $5\frac{1}{4}$ in
head from snout tip; eye $2\frac{1}{3}$ to $2\frac{4}{5}$,
greatly exceeds snout or interorbital;
maxillary reaches $\frac{3}{5}$ to $\frac{3}{4}$ in eye,
expansion $1\frac{3}{4}$ to 2 in eye, length
 $1\frac{4}{5}$ to 2 in head from snout tip;
interorbital $3\frac{1}{3}$ to $3\frac{1}{2}$, low,
little convex. Gill rakers 11 + 23,
lanceolate, slender, $1\frac{2}{3}$ in eye;
gill filaments $\frac{3}{4}$ of gill rakers.
Scales 35 or 36 in lateral
line to caudal base and 5 or 6
more on latter; 3 or 4 above, 8 below,
9 predorsal, 4 or 5 rows on cheeks.
Scales without basal points; row
of 40 or 41 apical denticles,

median largest and all with long, slender, basal, rod-like elements; circuli very fine, basal, not extended apically.

D. X, I, I, 12, I or X, I, I, 13, I, third spine 2 to $2\frac{1}{10}$ in total head length, second branched ray $1\frac{4}{5}$ to 2; A. IV, 11, I or IV, 12, I, third spine $2\frac{2}{5}$ to $2\frac{9}{10}$, first branched ray $1\frac{4}{5}$ to 2; caudal $1\frac{1}{5}$ to $1\frac{1}{3}$, forked, lobes pointed; least depth of caudal peduncle $3\frac{1}{3}$ to $3\frac{2}{5}$; pectoral $1\frac{2}{5}$ to $1\frac{3}{5}$; ventral $1\frac{2}{3}$ to $1\frac{4}{5}$.

Brown, little paler below. Each row of scales longitudinally with slightly paler longitudinal medial band, all converging at caudal peduncle. Iris pale yellowish, with gray. Edge of

19779. Ragay Bay, Ragay Gulf, Luzon.
March 10, 1907. Length 45 mm.

7050. Romblon Harbor. March 25, 1908.
Length 173 mm.

1226 and 12264. San Juanico Strait,
Leyte - Samar. April 13, 1908. Length 187 to 203 mm.

6553, 12195. San Roque, Leyte. July 27,
1907. Length 193 to 228? mm.

^{7540,}
8815, 8817, 8822, 8823, 12621 to 12623.

Santiago River, Pagapas Bay, Luzon. February
20, 1907. Length 102 to 168 mm.

19074 [1813] and 19075. Silino Island.
August 10, 1907. Length 215 to 218 mm.

20620. Virinao Island, Nakoda Bay,
Palawan Island, near Alfonso XIII.
December 30, 1908. Length 129 mm.

8296. Vitorogon market, Luzon. March 12,
1907. Length 290 mm.

9382, 9383, 15610. Tuganak Island. January
7, 1907. Length 213 to 218 mm.

gill opening and pectoral axil pale, without black. Fins all more or less light yellowish-brown.

Lower California, Mexico, Panama, Vucorro and Clarion Islands, Cocos Island, Galapagos Islands. Gilbert's contention for his Myripristis clarionensis is "differing from all known American species of Myripristis in having $3\frac{1}{2}$ series of scales between the lateral line and the base of the spinous dorsal, instead of $2\frac{1}{2}$ " will not hold. My series of material shows usually the former number and variably sometimes the latter number, even on the same specimen.

cm 179 Lethrinus mahsenoides Valenciennes

Lethrinus mahsenoides (Ehrenberg)

Valenciennes, Hist. Nat. Poiss., vol. 6, 1830,

p. 286. Seas of India; no locality (Red

Sea). — Peters, Archiv Naturges., 1855, p.

243 (Mozambique). — Günther, Cat.

Fishes Brit. Mus., vol. 1, 1859, p. 464

(Philippines, Amboyna). — Schmeltz, Cat. Mus. Godeffroy, no. 3, 1866, p. 8 (Viti Levu).

— Klunzinger, Verhandl. zool. botan. Gesellsch. Wien,

vol. 20, 1870, p. 755 (type Lethrinus abbreviatus).

Fische Roth. Meer., 1884, p. 37, pl. 6, fig. 2

(Red Sea). — Steindachner, Abhandl.

Venckenberg. Naturf. Gesell., vol. 25, 1900,

p. 418 (Batjan; Ternate); Denkschr.

Abad. Wiss. Wien, math.-naturwiss.

Classe, vol. 71, pt. 1, 1907, p. 133 (Bal Haf,

Gishin, South Arabia). — P. Pellegrin,

Bull. Mus. Hist. Nat. Paris, vol. 13, 1907,

p. 203 (Baie de Tuléar, Madagascar). —

Although Jenkins' nominal
Myripristis sealei was credited
to Honolulu, no subsequent
specimen has been found, so that
possibly his example may have
been brought there or is with
wrong locality? At any rate
I associate it with the present
species, from which I am unable
to distinguish it.

brown.

Red Sea, Arabia, Zanzibar, Ceylon, Philippines, China, Micronesia, Melanesia, Polynesia.

Lethrinus ^{Valenciennes} *flavescens*, was based on an example 200 mm. long. Snout moderately long, rectilinear; front somewhat convex and enlarged between eyes. Teeth small, rounded posteriorly in mouth. Head reddish, without spots. Body tinged yellowish, somewhat green on back, without mixture of other tints. Dorsals gray, with two obscure rows of brown spots. Caudal yellow. Articulation of three unpaired fins black. Pectoral yellow. Ventral somewhat spotted with pale brown.

Lethrinus chrenbergii ~~Valenciennes~~ is based on an example 250 mm. with elongated body. Green, with - silvery

U. S. N. M., no. 6269. Cape Van Lucas,
Lower California. J. Xantus. Length
52 to 62 mm. Thirteen examples.

U. S. N. M., no. 6304. Cape Van Lucas.
J. Xantus. Length 55 to 59 mm.
Two examples. Types of
Rhamphoberyx leucopus. Edge of
each membrane of spinous dorsal
narrowly dusky to blackish.

U. S. N. M., no. 6348. Cape Van
Lucas. J. Xantus. Length 54 to 67 mm.
29 examples.

U. S. N. M., no. 6350. Cape Van
Lucas. J. Xantus. Length 51 to 62 mm.
29 examples.

U. S. N. M., no. 6352. No data.
Length 54 to 62 mm. Seven examples.
These specimens agree with the
other material in the collection
from Cape Van Lucas, collected
by Xantus.

Depth $2\frac{2}{3}$; head $2\frac{3}{4}$. Snout $2\frac{1}{8}$ in head; eye 3, $1\frac{2}{5}$ in snout, equals suborbital depth, impinging very slightly on upper profile; maxillary reaches eye, length $2\frac{3}{4}$ in head; canines strong, molars little stronger above than below; interorbital very low, narrower than eye.

Scales 48 in lateral line to caudal base; 5 above, 13 below, predorsal extend forward nearly to eye (2 rows of small postocular scales on figure).

D. X, 9 (X, 8 on figure), fourth spine $2\frac{4}{5}$ in head, fifth ray $2\frac{2}{3}$; A. III, 8, third spine $3\frac{1}{5}$, second ray $3\frac{1}{3}$; caudal $1\frac{1}{5}$, emarginate; least depth of caudal peduncle 3; pectoral $1\frac{1}{8}$; ventral $1\frac{3}{5}$. (Saurage.)

614

U. S. N. M., no. 6530. Cape San Lucas.
J. Xantus. Length 51 to 59 mm.
Eight examples. Types.

U. S. N. M., no. 9800. Cape San
Lucas. J. Xantus. Length 48 to 65
mm. 51 examples.

U. S. N. M., no. 30928. La Paz.
Harford. Length 155 mm.

U. S. N. M., no. 47746. Clarion
Island. Albatross Collection.
Length 150 mm. Type of
Myripristis clarionensis.

U. S. N. M., no. 50019. Barrington
Island, Galapagos. May 1899.
R. E. Snodgrass and E. L. Heller.
Length 66 to 78 mm. Three examples.

U. S. N. M., no. 50034. Coco Island.
R. E. Snodgrass and E. L. Heller.
Length 140 to 155 mm. Three
examples.

Lethrinus, Bleeker, Nederl. Tijdschr.
Dierk., vol. 4, 1874, p. 334. Java,
Celebes, Amboina, Timor, Philippines.
 $\frac{1}{m}$ Jordan and Richardson, Mem.
Carnegie Mus., vol. 4, no. 4, 1907, p. 189
(Takeo, Formosa). $\frac{1}{m}$ Oshima, Japan.
Journ. Zool., vol. 1, no. 5, March 31,
1907, p. 131 (compiled). $\frac{1}{m}$ Herre and
Montalban, Philippine Journ. Sci.,
vol. 33, no. 4, 1917, p. 424, pl. 5, fig. 1
(Zamboanga).

Lethrinus nasutus (not Forsk.)
Kner, Reise Novara, Fische, 1865, p.
270 (Ceylon). (Error.)

615

U. S. N. M., No. 50035. Barrington
Island. R. E. Snodgrass and E. L.
Heller. Length 40 to 170 mm.
Four examples.

U. S. N. M., No. 50708. Honolulu.
Prof. C. P. Jenkins. Length 134 mm.
Type of Myripristis sealei.

U. S. N. M., No. 65588. Acapulco,
Mexico. Albatross Collection.

Length 55 to 150 mm. 23 examples.

U. S. N. M., No. 65589. South
coast of Panama. Albatross
Collection (4619). Length 12 to 14
mm. Two examples, in
Rhynchichthys stage.

U. S. N. M., No. 65593. Wreck Bay,
Chatham Island. Albatross Collection
(3224, 3228 to 3233). Length 135 to
170 mm. As Myripristis sealei.

6 above, 14 below, 9 predorsal;
suprascapula entire. Scales with 14
or 15 basal radiating striae; 90 to 92
apical denticles, with 5 transverse series
of basal elements; circuli very fine.

D. X, 9, I, fourth spine $2\frac{7}{8}$ to 3 in
head, III, third ray $2\frac{1}{4}$ to $2\frac{1}{3}$; A. III, 8, I,
third spine 3 to $3\frac{1}{3}$, second ray $2\frac{7}{8}$
to 8; caudal $1\frac{1}{5}$ to $1\frac{1}{4}$, deeply concave
behind; least depth of caudal peduncle
 $2\frac{7}{8}$ to 3; pectoral $1\frac{1}{8}$ to $1\frac{1}{4}$; ventral
 $1\frac{2}{5}$ to $1\frac{3}{5}$.

Brown, with slight olive tinge on
back, lower surfaces paler. Iris light
yellowish brown. An indistinct pale or
lighter broad axial band from upper
gill opening to middle of caudal basally.
Also another, narrower and shorter from
pectoral axil. Some of scales on back
with slightly paler centers. Fins dull

U. S. N. M., no. 67573. No data.
R. C. McGregor. Length 114 to 145 mm.
Three examples.

U. S. N. M., no. 67574. Van
Benedicte Islands, California.
R. C. McGregor. Length 129 to 130 mm.
Two examples.

U. S. N. M., no. 67575. Clarion
Island. R. C. McGregor. Length
135 to 145 mm. Three examples.

U. S. N. M., no. 79905. Balboa,
Canal Zone. Meek and Hildebrand.
Length 188 mm. (no. 3698.)

U. S. N. M., no. 79906. Balboa.
Meek and Hildebrand. Length
134 mm. (no. 4003.)

- $\frac{1}{2}$ Jordan and Seale, Bull. Bur. Fisher.,
vol. 26, 1906 (1907), p. 24 (Philippines).
- $\frac{1}{2}$ Evermann and Seale, Proc. U.S. Nat.
Mus., vol. 31, 1906, p. 508 (Zolo); Bull.
Bur. Fisher., vol. 26, 1906 (1907), p. 87
(Philippines). $\frac{1}{2}$ Seale and Bean, Proc.
U.S. Nat. Mus., vol. 33, 1907, p. 244
(Zamboanga). $\frac{1}{2}$ Jordan and Richardson,
Bull. Bur. Fisher., vol. 27, 1907 (1908),
p. 257 (Cuyo). $\frac{1}{2}$ Kendall and Goldborough,
Mem. Mus. Comp. Zool., vol. 26, 1911, p. 290
(Vavau, Tonga). $\frac{1}{2}$ Seale, Philippine
Journ. Sci., vol. 9, 1914, p. 67 (Hong Kong).
 $\frac{1}{2}$ Fowler, Mem. ^{Bishop's Mus.} ~~Smithsonian Mus.~~ vol.
10, 1928, p. 213 (Fiji; Vavau).
Lethrinus mahsenoides Sauvage, ^{Schmeltz, Cat. Mus. Godeffroy, no. 1, 1864, p. 8 (Viti Levu).} Hist.
Nat. Madagascar, Poiss., 1891, p. 206 (type).
Sauvage, ^{op. cit.}, 1891,
~~at p. 45, fig. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.~~
Lethrinus mahsenoides Silva, Cat. Fauna
Filipinas, vol. 1, 1895, p. 482 (Luzon, Manila Bay).

Lethrinus mahsenoides, Poiss.

Myripristis poecilopus (Gill)

Rhamphoberyx poecilopus Gill, Proc. Acad. Nat. Sci. Philadelphia, p. 87, 1863 (type locality, Cape San Lucas).

Myripristis poecilopus Jordan, Proc. U. S. Nat. Mus., vol. . . . , p. 376, 1885 (Cape San Lucas). — Jordan and Evermann, Bull. U. S. Nat. Mus., No. 47, pt. 1, p. 847, 1896 (compiled). — Jordan, Evermann, Clark, Rep. U. S. Com. Fisher. 1928 (1930), p. 235 (reference).

618

Depth $2\frac{2}{3}$ to $2\frac{4}{5}$; head $2\frac{3}{4}$ to $2\frac{4}{5}$, width 2. Snout $4\frac{1}{2}$ to $4\frac{2}{3}$ in head from snout tip; eye $2\frac{4}{5}$ to 3, greatly exceeds snout or interorbital; maxillary reaches $\frac{3}{5}$ to $\frac{3}{4}$ in eye, expansion $2\frac{1}{5}$ to $2\frac{1}{2}$ in eye, length $1\frac{9}{10}$ to $2\frac{1}{10}$ in head; interorbital 3 to $3\frac{1}{10}$, low, broadly convex. Gill rakers $10+20$, lanceolate, equal gill filaments or 2 in eye.

Scales 35 or 36 in lateral line to caudal base and 3 or 4 more on latter; 4 above, 7 or 8 below, 9 predorsal, 4 rows on cheeks.

Scales without any basal points; row of 18 to 20 apical points, median enlarged; circuli basal, fine, extend well over scales apically.

279

interorbital $2\frac{7}{8}$ to 3, broadly but slightly convex; preopercle edge very feebly denticulate behind, lower edge and rounded corner entire; opercle ends in moderate flat spine. Gill rakers 5+5, short, flattened, spinose tubercles, $\frac{1}{2}$ of gill filaments, which $2\frac{1}{4}$ in head.

Scales 52 to 55 in lateral line to caudal base and 1 or 2 more on latter; 4 above, 14 below, 34 to 36 predorsal forward above nostrils, 12 rows on cheeks - of which 3 on preopercle flange. Suprascapula entire. Scales with 5 basal radiating striae; 108 apical denticles with 1 or 2 transverse series of basal elements, circuli very fine.

D. X, 9, I, fourth spine $2\frac{1}{8}$ to $2\frac{4}{5}$ in head, seventh ray 2 to $2\frac{1}{8}$; - A.

D. X, I, I, 12, I to X, I, I, 14, I, third spine $1\frac{3}{4}$ to $1\frac{7}{8}$ in head, first branched ray $1\frac{4}{5}$ to $1\frac{9}{10}$; A.

IV, 11, I or IV, 12, I, third spine $2\frac{3}{5}$ to 3, first branched ray $1\frac{9}{10}$ to $2\frac{1}{10}$; caudal $1\frac{1}{5}$ to $1\frac{2}{5}$, forked, lobes pointed; least depth of caudal peduncle $4\frac{2}{5}$ to 5; pectoral $1\frac{1}{2}$ to $1\frac{2}{3}$; ventral $1\frac{1}{2}$ to $1\frac{3}{5}$.

Gray brown on back, sides and below paler to whitish, with brassy tints. Iris whitish. Fins pale, with yellowish tints; spinous dorsal with dusky to blackish brown on membranes and ventral ~~with~~ with terminal half black.

Lower California. Easily known by the dark or dusky spinous dorsal and terminal half

Proc. Acad. Nat. Sci. Philadelphia,
1927, p. 283 (Philippines), mem.
Bishop Mus., vol. 10, 1928, p. 218
(copied).

Depth $3\frac{1}{5}$ to $3\frac{3}{4}$; head $3\frac{2}{5}$ to $3\frac{2}{3}$,
width $1\frac{1}{8}$ to 2. Snout $2\frac{3}{4}$ to $3\frac{1}{5}$ in
head; eye $3\frac{1}{8}$ to $4\frac{1}{4}$, $1\frac{1}{4}$ to $1\frac{1}{2}$ in
snout, $1\frac{1}{8}$ to $1\frac{2}{5}$ in interorbital;
maxillary reaches nearly to or quite
opposite front eye edge, expansion $2\frac{2}{5}$
to $3\frac{1}{2}$ in eye, length $2\frac{4}{5}$ to 3 in
head; teeth in narrow villiform bands,
above of 6 or 7 irregular rows with
outer row enlarged also 4 front
outer curved canines; lower teeth
anterior villiform band like above,
though only outer enlarged row
extends back on each side of
mandible, also pair of wide set
outer front canines flaring outward;

of ventral black.

620

U. S. N. M., No. 6273. Cape San
Lucas. J. Xantus. Length 58 to 62
mm. Three examples. Type of
Rhampoberyx poecilopus.

U. S. N. M., No. (with 6350).
Cape San Lucas. J. Xantus. Length
57 to 58 mm. Two examples.

Can 129

277

Pentapodus nemurus (Bleeker)

Heteronathodon nemurus Bleeker,
"Natuurk. Tijdschr. Nederland. Indië",
vol. 3, 1852, p. 754. Macassar and
Tanawanco, Celebes. $\frac{1}{m}$ Günther, Cat.
Fishes Brit. Mus., vol. 1, 1859, p. 365
(no locality). $\frac{1}{m}$ Elera, Cat. Fauna
Filipinas, vol. 1, 1875, p. 478 (Cebu).
Pentapus nemurus Bleeker, Atlas
Ichth. Ind. Néerland., vol. 7, 1873-76,
pl. (16) 294, fig. 3; vol. 8, 1876-77, p. 102
(Celebes, Timor, Amboina, Aru). $\frac{1}{m}$
Seale and Bean, Proc. U. S. Nat. Mus.,
vol. 33, 1907, p. 244 (Zamboanga). $\frac{1}{m}$
Beaufort, Bijdr. Dierk. Amsterdam,
vol. 19, 1913, p. 121 (Saopela, Waigiu). $\frac{1}{m}$
Fowler, Copeia, no. 58, June 18, 1918, p.
64 (Philippines). $\frac{1}{m}$ Fowler and Bean,
Proc. U. S. Nat. Mus., vol. 62, 1922, p. 39
(Zamboanga and Cebu). $\frac{1}{m}$ Fowler,

621

Myripristis chryseres Jordan and Evermann

Myripristis chryseres Jordan and Evermann,
Bull. U.S. Fish Comm., vol. 22, p. 171, 1902
(1903) (type locality, Hilo; Honolulu).

— Fowler, Proc. Acad. Nat. Sci.

Philadelphia, p. 224, 1904 (paratype).

— Jordan and Evermann, Bull. U.S. Fish
Comm., vol. 23, pt. 1, p. 150, pl. 6, 1903

(1905) (types). — Fowler, Copeia, no. 112,
p. 82, November 20, 1922 (Hawaiian

Islands). — Jordan, Evermann, Tanaka,
Proc. Cal. Acad. Sci., ser. 4, vol. 16, p. 653,
November 14, 1927 (Honolulu). — Fowler,

New. Bishop Mus., vol. 10, p. 108, 1928
(Honolulu, Hilo, type).

Depth $2 \frac{3}{5}$ to $2 \frac{3}{4}$; head $2 \frac{3}{5}$ to $2 \frac{7}{8}$, width $1 \frac{2}{3}$ to $1 \frac{3}{4}$. Snout $4 \frac{1}{8}$ to $4 \frac{3}{4}$ in head from snout tip; eye $2 \frac{2}{5}$ to $2 \frac{3}{4}$, greatly exceeds snout or interorbital; maxillary reach $\frac{3}{4}$ to $\frac{4}{5}$ in eye, expansion $1 \frac{3}{5}$ to $1 \frac{4}{5}$, length $1 \frac{7}{8}$ to $1 \frac{9}{10}$ in head from snout tip; interorbital $4 \frac{1}{8}$ to $4 \frac{3}{4}$, low, nearly level; opercular spines very short. Gill rakers $10 + 20$, lanceolate, twice gill filaments or $1 \frac{7}{8}$ in eye.

Scales 33 to 36 in lateral line to caudal base and 3 or 4 more on latter; 3 above, 7 below, 9 predorsal, 4 rows on cheeks. Scales without basal points; row of 35 or 36 long fluted apical denticles; circuli very fine, basal, not extended apically.

Am²⁹ Lethrinus mahsena (Forskål)

Vciaena mahsena Forskål, Descript.
Animal., 1775, pp. XII, 5². Arabia. $\frac{1}{m}$
Bonnaterre, Tabl. Ichth., 1788, p. 124
(Red Sea). $\frac{1}{m}$ Gmelin, Syst. Nat. Linn.,
vol. 1, 1789, p. 1304 (Arabia).

Sparus mahsena Lacépède, Hist. Nat.
Poiss., vol. 4, 1802, pp. 34, 111 (Arabia).

Lethrinus mahsena Valenciennes, Hist. Nat.
Poiss., vol. 6, 1830, p. 513 (Cypria). $\frac{1}{m}$ Rüppell,
Neue Wirbelth. Fische, 1835, p. 119, pl. 29, fig. 4
(Red Sea). $\frac{1}{m}$ Günther, Cat. Fishes Brit.
Mus., vol. 1, 1859, p. 463 (Red Sea). $\frac{1}{m}$

Schmeltz, Cat. Mus. Godeffroy, vol. 4, 1869, p.
14 (Kandavu). $\frac{1}{m}$ Klunzinger, Verhandel.
zool. botan. Gesellsch. Wien, vol. 20, 1870, p.
753 (types of Lethrinus bungus and Lethrinus
abbreviatus). $\frac{1}{m}$ Günther, Journ. Mus.
Godeffroy, vols. 2-3, pts. 5-6, 1874, p. 65,
pl. 48 (Seychelles, Philippines, Pelew,

D. X, I, I, 13, I, third spine $2\frac{1}{4}$ to $2\frac{1}{2}$
in total head length, first branched
ray $2\frac{1}{8}$ to $2\frac{1}{5}$; A. IV, 11, I, third
spine $2\frac{1}{3}$ to $2\frac{1}{2}$, second branched
ray $1\frac{7}{8}$ to 2; caudal $1\frac{1}{3}$ to $1\frac{2}{3}$, deeply
forked; lobes pointed; least depth
of caudal peduncle 4 to $4\frac{1}{2}$; pectoral
 $1\frac{2}{5}$ to $1\frac{9}{10}$; ventral $1\frac{2}{3}$ to $1\frac{7}{8}$.

Back brown, below and sides
paler to very light. Upper hind
edge of gill opening blackish. Iris
light yellowish brown. Fins all
plain or pale yellowish brown.

Hawaiian Islands.

8832. Maculabo Island. June 14, 1907.
Length 300 mm. Side crossed by 2
longitudinal yellow bands, one in
region of lateral line and one
backward from upper base of pectoral.
Fin rays somewhat vermilion, taking
form of bars on caudal base and
more or less mottled on dorsal.
This specimen from deeper water
than usual.

U. S. N. M., No. 2702. Hawaiian
Islands. Bureau of Fisheries (04867).
Length 213 mm.

U. S. N. M., No. 50629. Hawaiian
Islands. Bureau of Fisheries (03463).
Length 203 mm. Type.

U. S. N. M., No. 50630. Hawaiian
Islands. Bureau of Fisheries (04860).
Length 248 mm. Paratype.

U. S. N. M., No. 52685. Hawaiian
Islands. Bureau of Fisheries (04887).
Length 203 mm.

193

similar parallel lines, most distinct on chest, ~~above~~ anal and about gill opening. Fins brownish, with indistinct blotches of darker on dorsals and as several obscure transverse bands on caudal. Paired fins uniform dull brown. Iris yellowish brown. Also several scales on opercle above dark drab brown.

East Indies, Philippines. Compared with Weber's figure my examples do not show the dark ventral or anal, though in most every other way they agree. The species appears to be distinguished by its coloration, especially in the longitudinal rows of dark spots on the body scales. Weber's two examples were 385 to 490 mm. long.

Myripristis jacobus Cuvier

Myripristis jacobus Cuvier, Hist. nat. Poiss., vol. 3, p. 162, 1829 (type locality, Martinique; Brazil; Havana).

— Günther, Cat. Fish. Brit. Mus., vol. 1, p. 19, 1859 (Brazil; Jamaica).

— Jordan and Evermann, Bull. U.S. Nat. Mus., no. 47, pt. 1, p. 846, 1896 (compiled). — Gilbert, Proc. Wash. Acad. Sci., vol. 2, p. 164, August 20, 1900

; Proc. Zool. Soc. London, p. 238, 1869 (St. Helena). — Capello, Journ. Sci. Math. Acad. Lisboa, p. 194, 1871 (St. Jago, Cape Verde Islands). — Melliss, St. Helena, p. 105, 1875. — Asorio, Journ. Sci. Acad. Lisboa, ser. 2, vol. 3, p. 244, March 1895 (Bom alimento).

(Maceio, Brazil).

— Fowler, Proc. Acad. Nat. Sci. Philadelphia, p. 137, 1919 (St. Martin, West Indies), p. 144 (type of Rhinoberyx chryseus Cope); p. 69, 1928 (Guánica, Porto Rico).

626

Myripristis lychnus Poey, Mem. Hist.
Nat. Cuba, vol. 2, p. 159, 1860 (type
locality, Havana).

Myripristis viridensis Troschel, Archiv
Naturges., p. 199, 1866 (type locality,
Cape Verde Islands). — Guimaraes,
Jorn. Sci. Math. Acad. Lisboa, p. 11,
1884 (St. Jago).

Myripristis viridescens Roule, Rés. Sci.
Camp. Monaco, vol. 52, p. 45, ¹⁹¹⁹ (north-east of
St. Lucia Island, Cape Verde, 20 meters).

Rhinoberyx chrysus Cope, Trans. Amer.
Philos. Soc., ser. 2, vol. 14, p. 464, fig. 2,
1871 (type locality, St. Croix Island,
West Indies).

Depth $2\frac{1}{3}$ to $2\frac{1}{2}$; head $2\frac{2}{3}$ to 3, width $1\frac{3}{5}$ to $1\frac{3}{4}$. Snout $4\frac{1}{2}$ to 5 in head from snout tip; eye $2\frac{1}{10}$ to $2\frac{1}{3}$, greatly exceeds snout or interorbital; maxillary reaches $\frac{3}{5}$ to $\frac{2}{3}$ in eye, expansion $1\frac{4}{5}$ to 2 in eye, length $1\frac{7}{8}$ to 2 in head from snout tip; interorbital 4 to $4\frac{2}{5}$, low, slightly convex; opercular spine moderate. Gill rakers $10 + 20$, finely lanceolate, twice gill filaments or 2 in eye.

Scales 35 or 36 in lateral line to caudal base and 4 more on latter; 3 above, 7 below, 8 predorsal, ^{4 rows on cheek} scales with 1 or 2 short basal points; 37 to 50 apical denticles; circuli basally enlarged largely vertical, fine, parallel, not enlarged apically.

D. X, I, 13, ± or X, I, 14, I, third spine $2\frac{1}{8}$ to $2\frac{1}{8}$ in total head length,

$1\frac{1}{10}$, very slightly emarginate behind;
least depth of caudal peduncle $2\frac{2}{3}$;
pectoral $1\frac{1}{10}$; ventral $1\frac{3}{5}$.

Body ornamented by spots of golden
forming well marked longitudinal
series. As shown on figure apparently
as slightly dark spot to each scale.

(Vauvage.)

Seichelet. Valenciennes gives his type,
secured by Dussumier, as 125 mm. He
says the body is greenish, membranous
border of opercle orange. Dorsal and
anal gray. Caudal deep green. Paired
fins golden. No spots on cheek.

first branched ray $1\frac{1}{2}$ to $1\frac{3}{4}$; A. IV, 12, I, third spine usually shorter than fourth, 3 to $3\frac{1}{8}$ ^{total} in head, first branched ray $1\frac{3}{5}$ to $1\frac{3}{4}$; caudal nearly or quite 1, with long slender lobes; least depth of caudal peduncle $3\frac{1}{4}$ to $3\frac{7}{8}$; pectoral $1\frac{2}{5}$ to $1\frac{1}{2}$; ventral $1\frac{2}{5}$ to $1\frac{3}{4}$.

Brown, red in life. Blackish bar along hind edge of gill opening and at pectoral axil, blood red in life. Fins pale, with whitish edges. Each row of scales on trunk with broad pale median band longitudinally.

West Indies, Brazil, West Africa. Myripristis veridensis Groschel is based on an example 178 mm long. From the original description I cannot find it differs

Cuv¹⁷⁹ Lethrinus croceopterus Valenciennes
Lethrinus croceopterus Valenciennes, Hist.
 nat. Poiss., vol. 6, 1830, p. 302, V. ychelles.
 $\frac{1}{271}$ Vunoye, Hist. nat. Madagascar, Poiss.,
 1871, p. 204, pl. 24, figs. 1-1a (type).

Depth $2\frac{4}{5}$; head $3\frac{1}{5}$, upper profile very
 shallowly convex. Snout $2\frac{1}{10}$ in head; eye $3\frac{1}{2}$,
 $1\frac{3}{5}$ in snout, slightly impinging on upper
 profile, greater than interorbital; maxillae
 reached $\frac{3}{4}$ to eye, length 3 in head; canines
 very strong (apparently 4 intended in front
 of each jaw on figure); hind teeth
 elliptical; interorbital very low.

Scales 46 in lateral line (43 on figure;
 5 above, 14 below; preopercular scales extend
 forward not quite to eye; postocular scales
 above preopercle not clearly shown on figure).

D. X, 9 (X, 10 on figure), fourth spine
 $2\frac{2}{5}$ in head, seventh ray $2\frac{1}{10}$; A. III, 8,
 second spines 3, first ray $2\frac{3}{4}$; caudal

in any way from the present species.

U. S. N. M., No. 2702. Cuba. Prof.
F. Poey. Length 125 to 138 mm. Two
examples. As Myripristis lychnus.

U. S. N. M., No. 12531. Cuba. Prof.
F. Poey. Length 172 mm. As Myripristis
lychnus.

U. S. N. M., No. 12686. West Indies?
Length 185 mm.

U. S. N. M., No. 29861. Dominica.
Dr. Nicholls. Length 193 mm.

U. S. N. M., No. 33263. West Indies.
J. C. Brevoort. Length 165 mm.

U. S. N. M., No. 35020. Havana.
Dr. D. S. Jordan. Length 190 mm. As
Myripristis lychnus.

Zanzibar, Madagascar, Persian Gulf.
It is said to differ from Lethrinus croceopterus
Valenciennes by the small eye and more
elevated body. It is suggestive of
Lethrinus haematopterus except the
back anteriorly is not so elevated.
The figure by Suwaye seems to agree
except the soft anal is lower and the
predorsal scales extend forward opposite
hind eye edge. Its specimen was
270 mm. long.

U. S. N. M., No. 43273. Bahia,
Brazil. Albatross Collection.
1887. Length 180 mm.

subequal with eye, low.

Scales 45 in lateral line; 5 above, 16 below, predorsal extend forward opposite hind opercle edge; small patch of preocular scales.

D. X, 9, I, fourth spine $2\frac{2}{3}$ in head, fifth ray $1\frac{2}{3}$; A. III, 8, third spine $2\frac{4}{5}$, first ray 2; caudal $1\frac{1}{10}$, emarginate; least depth of caudal peduncle $2\frac{2}{5}$; pectoral $1\frac{1}{10}$; ventral $1\frac{1}{5}$.

Black brown band above middle of forehead and second from front eye edge over middle of snout length. Back clear gold brown. Three blue violet bands parallel and above lateral line, uppermost to end of soft dorsal and others to caudal base. Below lateral line each scale row with longitudinal brown line. Length not given; drawing 170 mm. (Steindachner.)

Myripristis hexagonus (Lacépède)

Lutjanus hexagonus Lacépède, Hist. nat. Poiss., vol. 4, p. 213, 1803 (type locality, "Collection donne par la Hollande à la France").

Myripristis hexagonus Cuvier, Hist. nat. Poiss., vol. 3, p. 171, 1829 (copied).

— Valenciennes, Hist. nat. Poiss., vol. 7, p. 489, 1831 (Bourbon).

— Duoy and Gaimard, Voy. Astrolabe, Zool., p. 674, pl. 14, fig. 5, 1834

↑ — Bleeker, Nat. Tijds. Ned. Indië, vol. 12, p. 213, 1856 (Nias); vol. 19, p. 329, 1859 (Pattitan, Java); Act. Soc. Ind. Néerl., vol. 1, no. 5, p. 74, 1856 (Amboina); vol. 2, no. 7, p. 3, 1857 (Amboina); vol. 3, no. 4, p. 2, 1857-8 (Macassar).

1891 (Bourbon).

Myripristis hexagonus (Lacépède)

Lutjanus hexagonus Lacépède, Hist. nat. Poiss., vol. 4, p. 213, 1803 (type locality, "Collection donnée par la Hollande à la France").

Myripristis hexagonus Cuvier, Hist. nat. Poiss., vol. 3, p. 171, 1829 (copied).

— Valenciennes, Hist. nat. Poiss., vol. 7, p. 489, 1831 (Bourbon).

— Duoy and Gaimard, Voy. Astrolabe, Zool., p. 674, pl. 14, fig. 5, 1834

— Günther, Cat. Fish. Brit. Mus., vol. 1, p. 27, 1859 (Buru). — ^{Playfair, Fishes of Zanzibar, p. 11, 1866 (reference).} Schmeltz, Cat. Mus.

Godeffroy, No. 3, p. 6, 1866 (South Seas). —

Bleeker, Rés. Poiss. Madagascar, Pollen et Van Dam, pt. 4, p. 86, 1874 (reference). —

Peters, Monatsb. Akad. Wiss. Berlin, p. 439, 1876 (Mauritius); Trans. Roy Soc.

Merts Sci. Mauritius, new ser., vol. 11, p. 52, 1883 (Mauritius). — Sauvage,

Hist. nat. Madagascar, Poiss., p. 22, 1891 (Bourbon).

→ *Günther*, Cat.
p. 27, 1859 (B.
Godeffroy, *Mon.*
Bleeker, *Néa.*
et Van Dam, *p.*
Peters, *Monats.*
139, 1876 (Mauri
Arts Sci. Mauri
L. 52, 1883 (Mauri
Hist. nat. Mauri
1891 (Bourbon)

I. verticalis *Linnaeus*. With eye & thor. ant. large
as in *verticalis* until only eye & thor. ant. remain.
7077. *Fort Van Oo* *Sumatra*. *November 11*,
1905. Length 268 mm.
18746 to 18750. *Patua Reef*. *October 25*,
1908. Length 106 to 176 mm.

— Fowler, Mem. Bishop Mus., vol. 10, p. 107, fig. 21, 1928 (Society Islands, Kingmills, Apia); vol. 11, no. 5, p. 323, 1931 (compiled). — Weber and Beaufort, Fishes Indo Austral. Archip., vol. 5, p. 256, 1929 (Makassar; Bincunga).

Myripristis hexagonatus Guichenot, Notes Ile Réunion, vol. 2, p. 24, 1862.

Myripristis hexagonus Schmeltz, Cat. Mus. Godeffroy, no. 1, p. 8, 1860 (South Seas); no. 2, p. 16, 1865 (Samoa).

Myripristis pahudi Bleeker, Versl. Akad. Wet. Amsterdam, vol. 15, p. (20) 21, 1863 (type locality, Hitu, Amboina); Ned. Tijds. Dierk., vol. 4, p. 183, 1874 (Amboina). — Fowler, Mem. Bishop Mus., vol. 10, p. 109, 1928 (compiled).

Depth $2\frac{1}{3}$ to $2\frac{1}{2}$; head $2\frac{7}{8}$ to 3, width $1\frac{3}{4}$ to $1\frac{4}{5}$. Snout 5 to $5\frac{1}{4}$ in head; eye $2\frac{1}{10}$ to $2\frac{1}{4}$, greatly exceeds snout or interorbital; maxillary reaches $\frac{3}{4}$ to $\frac{4}{5}$ in eye, expansion $2\frac{1}{4}$ to $2\frac{2}{5}$ in eye, length $1\frac{4}{5}$ to $1\frac{7}{8}$ in head from snout tip; interorbital $3\frac{1}{2}$ to $4\frac{1}{4}$, level; broad spine at opercular angle. Gill rakers $13 + 25$, finely lanceolate, $2\frac{1}{2}$ in eye or twice gill filaments.

Scales 30 to 32 in lateral line to caudal base and 4 or 5 more on latter; 3 above, 7 below, 9 predorsal, 4 rows on cheeks. Scales without basal points; row of 42 to 70 apical denticles, with long slender rod like basal elements; circuli fine, basal, none apically.

Can²⁹

Lethrinus striatus Steindachner

Lethrinus striatus Steindachner, Verhandl.

zool. botan. Gesellsch. Wien, vol. 16, 1866, p.

479, pl. 5, fig. 3. Zanzibar. $\frac{1}{m}$ Playfair,

Fishes of Zanzibar, 1866, p. 145 (Zanzibar). $\frac{1}{m}$

Sauvage, Hist. nat. Madagascar, Poiss.,

1891, p. 205, pl. 24, fig. 2. $\frac{1}{m}$ Regan, Journ.

Bombay Nat. Hist. Soc., vol. 16, no. 2, 1905,

p. 330 (Persian Gulf). $\frac{1}{m}$ Pellegrin,

Bull. Soc. Zool. France, vol. 39, 1914, p. 229

(Rossi Bé and Fort Dauphin, Madagascar).

Depth $2\frac{2}{5}$; head 3, upper profile steeply inclined. Snout $1\frac{4}{5}$ in head; eye $3\frac{1}{2}$, $1\frac{4}{5}$ in snout, $1\frac{2}{5}$ in suborbital depth to expansion of maxillary; maxillary reaches $\frac{3}{4}$ in snout, length $2\frac{7}{8}$ in head; 4 canines in front of each jaw, with row of conic laterals and molars of upper jaw little longer than lower; band of villiform teeth behind canines; interorbital

634

D. X, I, I, 13, I, X, I, I, 14, I, fourth spine 2 to $2\frac{1}{4}$ in total head length; third branched ray $1\frac{1}{2}$ to $1\frac{3}{5}$; A. IV, I, 11, I, third spine $2\frac{3}{4}$ to $2\frac{4}{5}$, third branched ray $1\frac{1}{2}$ to $1\frac{2}{3}$; caudal $1\frac{1}{10}$ to $1\frac{1}{5}$, widely forked; least depth of caudal peduncle $3\frac{1}{5}$ to $3\frac{3}{4}$; pectoral $1\frac{1}{4}$ to $1\frac{2}{4}$; ventral $1\frac{1}{2}$.

Brown, paler to whitish below with silvery white reflections. Iris whitish. Upper hind edge of gill opening blackish brown. Pectoral axil blackish brown. Fins uniformly pale brownish to whitish.

Mauritius, Madagascar, East Indies, Philippines, Micronesia, Polynesia.

112

above, 14 or 15 below, 9 predorsal; caudal and pectoral bases finely scaled. Scales with 17 to 22 basal radiating striae, with 2 or 3 incomplete auxiliaries; 102 to 130 apical denticles, with 10 to 14 transverse series of basal elements; circuli very fine.

D. X, 9, I, fourth spine 3 to $3\frac{1}{3}$ in head, fourth ray $2\frac{3}{4}$ to 3; A. III, 8, I, third spine $3\frac{2}{5}$ to $3\frac{4}{5}$, second ray $2\frac{4}{5}$ to $3\frac{3}{5}$; caudal $1\frac{1}{4}$ to $1\frac{1}{3}$, deeply emarginate; least depth of caudal peduncle $2\frac{4}{5}$ to $3\frac{1}{5}$; pectoral $1\frac{1}{6}$ to $1\frac{1}{4}$; ventral $1\frac{1}{2}$ to $1\frac{2}{3}$.

Brown, body nearly uniform. Head drab brown, darker than body color, except pale opercles, which like body. Each row of scales above lateral line with dark streak. Below lateral line each row of scales with traces of

U. S. N. M., No. 52370. Apia,
Samoa. Bureau of Fisheries (02510).
Length 217 mm.

Depth $2\frac{1}{2}$ to $2\frac{3}{5}$; head $2\frac{3}{4}$ to $2\frac{7}{8}$, width $2\frac{1}{8}$ to $2\frac{1}{5}$. Snout $1\frac{4}{5}$ in head; eye 4 to $4\frac{1}{8}$, $2\frac{1}{5}$ to $2\frac{1}{4}$ in snout, 1 in interorbital; maxillary reaches to or slightly beyond front nostril, length $2\frac{2}{3}$ to $2\frac{3}{4}$ in head; upper lip moderate, coriaceous; broad villiform bands of teeth in front of each jaw, with outer enlarged series, largely conic, as 4 rather low canines in front above and below, each side posteriorly last 3 molar like, penultimate with median longitudinal depression or groove; interorbital 4 to $4\frac{1}{5}$, convex; naked region of head finely striate or skin rugose. Gill rakers 5 + 5, short, low tubercles, about $\frac{3}{5}$ of gill filaments.

Scales 45 or 46 in lateral line to caudal base and 2 more on latter; 6

In the series below are a number of large examples I identify as the adult of this species, much larger than any hitherto recorded. They are interesting as showing the equally wide maxillary as well as other structural characters in agreement. In coloration most have simply a blackish spot apically to the lobes of the dorsal, anal and caudal.

Analysis of the species.

a.¹ Archamia. Body deeper, depth less than 3.

b.¹ No broad, dark, transverse, median band.

c.¹ Short, vertical, dark bar behind gill opening usually present. bleekeri

c.² No short, vertical, dark bar behind gill opening never present.

d.¹ ~~Anal rays 12 or 13~~; median dark predorsal line, second dark line from above snout to last dorsal rays, third from snout nearly to caudal. burnensis

d.² ~~Anal rays 15 to 17~~; no dark longitudinal lines. lineolata

b.² Broad, dark, median, transverse band from soft dorsal to belly. zosterophora

a.² Joania new subgenus. Body slender, depth 3 to $3\frac{2}{5}$; dark median lateral longitudinal band. gracilis

4959, 4962, 5180, 6518, 9588.
 Alibijaban Island, Ragay Gulf,
 Luzon. March 6, 1909. Length 143 to
 168 mm.

~~4959, 4962, 5180, 6518, 9588~~

9861. Bolalo Bay, Palawan Island.
 December 21, 1908. Length 108 mm.

20367. Bolinao Bay, Luzon. May 10,
 1909. Length 193 mm.

8878. Buang Bay, Salajit Island.
 March 15, 1909. Length 169 mm.

A519, A520. Bulan Island.
 September 13, 1909. Length 230 to 270 mm.

5359, 12065, 17843, 20034. Bumbum
 Island. September 25, 1909. Length
 162 to 204 mm.

15278, 17695. Busin Harbor, Burias
 Island. March 8, 1907. Length 100 to 157 mm.

8059, 9006. Busin Harbor. April 22,
 1908. Length 123 to 153 mm.

Genus Archamia Gill.

Archamia Gill, Proc. Acad. Nat. Sci. Phila.;
1863, p. 81. Type Upogon bleekeri Günther,
monotypic.

Head rather large. Teeth in villiform bands in jaws, on vomer and palatines. Preopercle ridge with flat spine at angle, otherwise entire; preopercle edge often with minute serrae. Gill rakers 13 to 16 on lower branch of first arch. Scales large, 22 to 24 in lateral line to caudal base. Lateral line complete. Dorsals separate, spinous fin with 6 spines and soft fin with spine and 9 rays. Anal with 2 spines and 13 to 17 rays. Caudal emarginate.

This genus is known chiefly for its long anal fin. Most all the species studied below with a black basal caudal spot.

10808, 15807. Butuanan

Island. June 13, 1909. Length 138 to 143 mm.

8998, 9421, 11993. Caracaran,

Batan Island. June 8, 1909. Length 142 to 208 mm.

7147. Casogoran, Malhon Island.

July 27, 1909. Length 170 mm.

10850. Dalaganan Island.

April 8, 1909. Length 177 mm.

A593. Gandra Island. September

20, 1909. Length 277 mm.

9925. Inamucan Bay, Mindanao.

August 8, 1909. Length 164 mm.

A767. Mabul Island. September 29,

1909. Length 147 mm.

snout extending to opercle edge,
similar one fitting upper maxillary
across to pectoral base. Pale stripes
on top of snout and head. Fins
very pale scarlet or orange.
Brownish bar across second dorsal
and anal bases. Other fins without
markings.

8088, 18568 [1915]. Malanipa Island.
September 8, 1907. Length 87 to 127 mm.

20025. Malapascua Island.
March 16, 1909. Length 158 mm.

9012. Mantacao Island, west
coast of Bohol. April 8, 1908. Length
197 mm.

19913. Maribojoc Bay, Maribojoc,
Bohol. March 26, 1909. Length 122 mm.

4574. Mompong Island, Anabayas
Group. March 3, 1909. Length 89 mm.

9892. Murcielagos Bay, Mindanao.
August 9, 1909. Length 153 mm.

22933
11479, Habatas Point, Samar.

July 24, 1909. Length ^{144 to} 163 mm.

17793, 17794. Near Palag Bay, Luzon.
June 16, 1909. Length 125 to 148 mm.

15442. Palangaman, Island, between
Leyte and Cebu. March 16, 1909. Length
59. [1379.]

10525. Cebu market. August 17, 1909.
Length 66 mm.

10846. Dalaganem Island. April 8,
1909. Length 53 mm.

4347. Jolo. February 14, 1908. Length
38 mm. D. 5159.

1 example. Jolo. September 16, 1909.
Length 18 mm.

4331. Jolo. September 18, 1909.
Length 38 mm. D. 5558.

5314. Jolo reefs. March 6, 1908.
Length 82 mm.

9185, 9228. Opol, Mindanao.
August 4, 1909. Length 168 to 208 mm.

9616, 9620, 8212, 12846. Pagapas
Bay, Luzon. February 20, 1909. Length
138 to 173 mm.

13114. Paron Point, Albay Gulf,
Luzon. June 21, 1909. Length 138 mm.

21603. Pasacao, Ragay Gulf, Luzon.
March 9, 1909. Length 99 mm.

8195, 18283. Polloc, Mindanao.
May 22, 1908. Length 94 to 125 mm.

11585 to 11588. Port Usan, west
of Pinas Island, Busuanga Island.
December 17, 1908. Length 102 to 125 mm.

20679. Port Banalacan, Marinduque.
February 23, 1909. Length 147 mm.

6342, 20594. Port Jamelo, Luzon.

July 13, 1908. Length 90 to 173 mm.

10498. Port Maricaban, Luzon. July 21, 1908. Length 200 mm.

13201. Dinalusag Island. June

12, 1909. Length 137 mm.

at least on head 4 or 5 longitudinal gray or white lines follow in their courses, of which at least 2 cross eye one above and one below pupil.

Skin pale yellowish white to gray or slaty. Fins ^{no} all pale, spinous dorsal little more grayish and dark gray subbasal line on soft dorsal. Caudal with obscure dusky spot about size of pupil at base medially.

East Indies, Philippines.

11904 [595]. San Miguel Harbor, ⁶⁹¹
Ticao Island. April 21, 1908.
Length 145 mm.

8275, 17782. San Miguel Island,
Tabaco Bay. June 4, 1909. Length
158 to 178 mm.

7084. San Roque, Leyte. July 29,
1909. Length 118 mm.

117018. Santa Cruz, Marinduque.
April 24, 1908. Length 190 mm.

19156. Santo Domingo de Basco,
Batavia. November 7, 1908. Length
176 mm.

6875 to 6880, 6920. Santo Domingo,
Batavia. November 7, 1908. Length 147
to 255 mm.

6999, 7000 [2007]. Sipadan Island.
September 28, 1909. Length 200 to 205 mm.

18192 [2116]. Timor Island.
February 24, 1905. Length ~~2~~ 192 mm.

radiating striae; 50 to 119 apical denticles, with 1 or ~~2~~ transverse series of basal elements; circuli moderate.

D. VII — I, 9, I, third spine $1\frac{3}{5}$ to $1\frac{4}{5}$ in total head length, first branched ray $1\frac{1}{5}$ to $1\frac{1}{3}$; A. II, 8, I, second spine $2\frac{1}{2}$ to 3, first branched ray $1\frac{3}{5}$ to $1\frac{3}{4}$; caudal 1 to $1\frac{1}{6}$, emarginate behind and lobes rounded; least depth of caudal peduncle $2\frac{1}{10}$ to $2\frac{1}{2}$; pectoral $1\frac{2}{5}$ to $1\frac{2}{3}$; ventral $1\frac{3}{5}$ to $1\frac{4}{5}$.

Brown, slightly paler below or on under surface of head and abdomen. About 12 to 15 dark brown narrow longitudinal lines alternately slightly broader so that broad median one passes through eye to caudal base medially. Side of head and abdomen sometimes with grayish or violet tints. Within alternating pale areas

5129, 5131, 5132. Surigao,
Mindanao. May 8, 1908. Length
123 to 168 mm.

19012 [1631]. Tapanan Island.
September 13, 1909. Length 188 mm.

12072. Tictuan Island.

September 8, 1909. Length 178 mm.
18589. Tuluatan Island. September 4, 1909. Length 182 mm.

21505. Ulugan Bay, Palawan.

December 28, 1908. Length 123 mm.

6636, 6638, 19079. Varadero Bay,
Mindoro. July 23, 1908. Length 143
to 193 mm.

7350. West coast Palui Island.
November 18, 1908. Length 203 mm.

6955. West coast Vabtan Island.
November 8, 1908. Length 245 mm.

9394. Zamboanga market.
September 7, 1909. Length 250 mm.

Depth $2\frac{3}{4}$ to 3; head $2\frac{2}{3}$ to 3, width $1\frac{7}{8}$ to $2\frac{1}{8}$. Snout 4 to $4\frac{1}{5}$ in head from snout tip; eye $2\frac{1}{2}$ to $2\frac{2}{3}$, nearly twice snout or interorbital; maxillary reaches $\frac{2}{3}$ to $\frac{3}{4}$ in eye or about opposite hind pupil edge, expansion $2\frac{1}{2}$ to $2\frac{2}{3}$ in eye, length 2 to $2\frac{1}{5}$ in head; teeth in villiform bands in jaws, on vomer and palatines; interorbital $4\frac{1}{2}$ to 5 ~~in head~~, nearly level; preopercle ridge entire, edge minutely serrated; preorbital entire. Gill rakers 5+14, lanceolate, much longer than gill filaments or $2\frac{1}{2}$ in eye.

Scales 23 or 24 in lateral line ~~to~~ caudal base and 3 or 4 more on latter, 2 above, 6 below, 3 or 4 predorsal, 2 rows on cheek. Tubercles in lateral line large, simple, each well exposed and with ^{small} basal scale. Scales with 9 to 13 basal

A 985. Binang Unang Island,
Gulf of Tomini, Celebes. November
18, 1909. Length 198 to 210 mm.
Two examples.

A 1512. Biorobirahan, Borneo.
December 31, 1909. Length 205 mm.

Two examples. Buka Buka Island,
Gulf of Tomini, Celebes. November
20, 1909. Length 100 to 113 mm.

11041. Cape Kait, Libani Bay, Celebes.
December 29, 1909. Length 200 mm.

6895. Danawan and Vi Amil Islands,
vicinity Darvel Bay, Borneo. September
26, 1909. Length 154 mm.

7794, 17565. Danawan and Vi
Amil Islands. September 27, 1909.
Length 183 to 193 mm.

9515. Lodepo and Pusejogo Islands,
Celebes. November 16, 1909. Length
164 mm.

Apogon multitaeniatus (non Cuvier)

Bleeker, Journ. Indian Arch., 1848, p.

635 (Xumbawa). — Günther, Cat. Fishes

Brit. Mus., vol. 1, 1859, p. 242 (copied).

— Meyer, Ann. Soc. Españ. Hist. Nat.

Madrid, vol. 14, 1885, p. 12 (Cebu).

Apogon multitaeniata Elera, Cat. Fauna

Filip., 1895, p. 469 (Cebu).

Amia multitaeniata Bleeker, Atlas

Ichth. Ind. Néerl., vol. 7, 1873-76, pl. (4)

319, fig. 1.

A 1480 to A 1483. Kait Point,
Libani Bay, Celebes. December 29,
1909. Length 207 to 24 mm.

A 1088, 9775. Maitara Island.
November 26, 1909. Length 200 to 210
mm.

17915, 18495. Tanakeke Island,
Celebes. December 21, 1909. Length
90 to 175 mm.

22866. Tojarian Bay, Tojarian Island,
Gulf of Timini, Celebes. November
19, 1909. Length 155 mm.

A 1253, A 1262 to A 1265, 18191 [2114].
Usai, Boero Island. December 9, 1909.
Length 197 to 240 mm.

Amia multilineata (Bleeker)

Apogon multilineatus Bleeker, Ned.
Tijds. Dierk., vol. 2, 1865, p. 188. Ceram.
— Weber, Siboga Exped., vol. ^{57, Fische} 65, 1913, p.
223 (Sanguisiapo, Suha Archipelago).

Amia multilineata Bleeker, Atlas
Ichth. Ind. Néerl., vol. 7, 1873-76, p. 83
(Celebes, Sumbawa, Flores, Timor,
Ternate, Ceram, Amboina, Goram).

— Radcliffe, Proc. U. S. Nat. Mus., vol. 41,
1911, p. 259, pl. 25 (Great Tobea Island,
Philippines, Celebes).

Myripristis intermedius Günther

Myripristis murdjan var. intermedia
Günther, Journ. Mus. Godeffroy, vol.
 2-3, pts 5-6, p. 92, 1874 (type
 locality, South Sea).

Myripristis intermedius Jordan and
Snyder, Proc. U. S. Nat. Mus., vol. 29,
 p. 353, 1906 (Tahiti). — Jordan and
Seale, Bull. Bur. Fisher., vol. 25,
 p. 220, 1905 (1906). — Snyder, Proc. U. S.
 Nat. Mus., vol. 42, p. 495, 1912 (Okinawa).
 — Fowler, Bull. Bishop Mus., no. 22, p.
 31, 1925 (Samoa); Mem. Bishop Mus.,
 vol. 10, p. 107, 1928 (Samoa; Apia).

Depth $2\frac{1}{10}$ to $2\frac{2}{5}$; head $2\frac{3}{5}$ to $2\frac{7}{8}$, width $1\frac{2}{3}$ to $1\frac{4}{5}$. Snout $4\frac{1}{2}$ to 5 in head from snout tip; eye 2 to $2\frac{2}{3}$, greatly exceeds snout or interorbital; maxillary reaches $\frac{3}{4}$ to $\frac{4}{5}$ in eye, expansion $1\frac{4}{5}$ to 2 in eye, length $1\frac{3}{5}$ to $1\frac{7}{8}$ in head from snout tip; interorbital $3\frac{2}{5}$ to $3\frac{1}{2}$, low or only slightly convex. Gill rakers 16 + 30, lanceolate, slender, 2 in eye; gill filaments $1\frac{1}{2}$ in gill rakers.

Scales 30 to 32 in lateral line to caudal base and 4 or 5 more on latter; 3 or 4 above, 7 below, 10 predorsal, 4 rows on cheeks. Scales without basal points; row of 40 to 42 slender fluted apical points; circuli very fine, basal, not extended apically.

Can 179 Lethrinus curinatus Weber

Lethrinus curinatus Weber, Siboga Exped.,
vol. 57, Fische, 1913, p. 287, pl. 2, fig. 1,
text fig. 68. Leget, Galewa Straits,
New Guinea; Maul, Niederz. Kei. —
Fowler, Mem. Bishop Mus., vol. 10, 1928,
p. 214 (copied).

647

D. $\overline{\text{X}}$, $\overline{\text{I}}$, $\overline{\text{I}}$, $\overline{12}$, $\overline{\text{I}}$, fourth spine 2 to $2\frac{1}{5}$ in total head, first branched ray $1\frac{1}{5}$ to $1\frac{3}{5}$; A. $\overline{\text{IV}}$, $\overline{\text{I}}$, $\overline{10}$, $\overline{\text{I}}$, third spine $2\frac{1}{3}$ to $2\frac{3}{5}$, first branched ray $1\frac{1}{8}$ to $1\frac{1}{2}$; caudal 1 to $1\frac{1}{4}$, forked, lobes broad; least depth of caudal peduncle $3\frac{1}{10}$ to $3\frac{2}{3}$; pectoral $1\frac{1}{3}$ to $1\frac{2}{5}$; ventral $1\frac{1}{4}$ to $1\frac{2}{5}$.

Largely uniform brown, slightly paler below. Iris pale. Upper hind edge of gill opening blackish. Black blotch in pectoral axil. Fins otherwise, except upper front part of soft dorsal lobe which blackish, largely pale brown like rest of general coloration.

Riu Kiu, Polynesia. Günther's distinction in describing this as a variety of Myripristis murdjan,

n figure.

D. X, 9, third spine $2\frac{2}{3}$ in total head length, longer than last spine, which also longer than penultimate spine; last spine $4\frac{1}{4}$ in total head, third ray $3\frac{1}{5}$; A. III, 8, third spine $4\frac{1}{4}$, last ray $3\frac{1}{3}$; caudal $1\frac{1}{4}$, emarginate, lobes pointed; least depth of caudal peduncle $3\frac{2}{5}$; pectoral $1\frac{1}{3}$; ventral $1\frac{4}{5}$.

Yellowish, back greenish gray, becomes whitish on belly. Head brown, with darker blotches. Inside mouth red, lips yellow. Hind border of gill opening, and pectoral base reddish yellow.

Inner base of pectoral deep red. Fins yellow, spinous dorsal brownish. Iris rusted purplish. Length 450 mm.

(Klunzinger.)

Red Sea.

rests largely on color. He mentions the black tip to the soft dorsal and a broad border to the caudal. He neglects a definite type locality besides details of his material. However, the distinction of color appears a sufficient specific character so the species is admitted accordingly.

U. S. N. M., No. 52397. Lipia, Samoa.
Bureau of Fisheries (07455). Length
63 to 233 mm. Twelve examples.

Paul⁷⁹

148

Lethrinus xanthochilus Klunzinger

Lethrinus xanthochilus Klunzinger,
Verh. Zool. bot. Gesellsch. Wien,
vol. 20, 1870, p. 753. Koser, Red Sea;
Fische Roth. Meer., 1884, p. 39, pl. 6, fig.
3 (type).

Depth $3\frac{3}{5}$; head $3\frac{1}{5}$, upper profile
inclined, little arched over eye. Snout
 $1\frac{3}{5}$ in head from snout tip; eye $6\frac{1}{5}$,
4 in snout, 3 in suborbital depth to
maxillary expansion; maxillary reaches
half way to eye, length $2\frac{4}{5}$ in head
from snout tip; teeth all conic,
4 canines in front of each jaw, inner
band of fine villiform teeth behind
canines; interorbital low.

Scales 48 (52 tubular scales on
figure; 5 above, 12 below, predorsal
forward not quite opposite hind
preopercle edge; no postocular scale

Myripristis pralinus Cuvier

Myripristis pralinus Cuvier, Hist. Nat. Poiss., vol. 3, p. 170, 1829 (type locality, New Ireland). — Lesson, Voy. Cochin, Zool., vol. 2, pt. 1, p. 222, 1830 (Port Praslin, New Ireland).

~~Valenciennes, Hist. Nat. Poiss., vol. 4, p. 486, 1831 (Mauritius).~~

— Bleeker, Nat. Tijds. Ned. Indië, vol. 2, p. (726) 734, 1851 (Bandar Neira); vol. 4, p. 132, 1853 (Ternate); vol. 5, pp. 319, 320, 1853 (Amboina).

vol. 13, p. 371, 1857 (Sangi); Act. Soc. Sci. Ind. Néerl., vol. 1, no. 5, p. 4, 1856 (Amboina); vol. 2, no. 7, p. 3, 1857 (Amboina). — Günther, Cat. Fish.

Brit. Mus., vol. 1, p. 20, 1859 (Celebes; Louisiade Archipelago; India).

— Playfair, Fishes of Zanzibar, p. 12, 1866 (Mauritius); Proc. Zool. Soc. London, 1867, p. 855 (Vetchelles).

— Élérat, Cat. Fauna Filipinas, vol. 1, p. 454, 1895 (Luzon, Samar, Paragua).

— Seale, Occas. Pap. Bishop Mus., vol. 1, no. 5, pp. 17, 18, 20, 1902 (Honolulu).

- Steindachner, Sitzs. Ber. Akad. Wiss. Wien, vol. 115, pt. 1, p. 1374, 1906 (Upolu).
- Jordan and Seale, Bull. Bur. Fisher., vol. 25, p. 222, 1905 (1906) (Apia).
- Evermann and Seale, Bull. Bur. Fisher., vol. 26, p. 60, 1906 (1907) (Bacon). — Kendall and Radcliffe, Mem. Mus. Comp. Zool., vol. 35, p. 90, 1912 (Cook Bay; types of Myripristis sanguineus and M. symmetricus). — Fowler and Ball, Bull. Bishop Mus., no. 26, p. 10, 1925 (French Frigates Shoal).
- Fowler, Bull. Bishop Mus., no. 38, p. 8, 1927 (French Frigates); Mem. Bishop Mus., vol. 10, p. 108, 1928 (Tahiti, French Frigates, Apia, Cook's Bay; types of M. phaeopus, M. symmetricus, M. sanguineus). — Weber and Beaufort, Fisher Indo Austral. Archip., vol. ~~103~~ 5, p. 253, fig. 69 (on p. 251), 1929 (Simalur, Beningha, Banda).
- Myripristis pralinus Richardson, Ichth. China Japan, p. 223, 1846 (coasts of China; Canton).

Myripristis du port Praslin
Valenciennes, Hist. Nat. Poiss., vol.
 7, p. 486, 1831 (Mauritius).

Myripristes praslinus Richardson,
Ichth. China and Japan, p. 223, 1846
 (coasts of China, Canton).

~~Myripristes praslinus Vauvage, Hist.
Nat. Madagascar, Poiss., p. 117, pl. 2,
 figs. 2 & 2a, 1891~~

Red Sea, Seychelles, India,
East Indies, Philippines, Queensland,
New South Wales, Melanesia, Micronesia,
Polynesia.

Myripristis pralinus Bleeker,
 Nat. Tijds. Ned. Indië, vol. 2, p. 234,
 1851 (Banda, heira); vol. 4, p. 132,
 1853 (Ternate); vol. 5, pp. 319, 320,
 1853 (Amboina). — Sauvage, Hist. Nat.
 Madagascar, Poiss., p. 17, pl. 2, figs. 1-2a, 1891 (type).

Myripristis pralinus Bleeker, Nat.
 Tijds. Ned. Indië, vol. 3, p. 741, 1852
 (Kema, Celebes).

Myripristis pralinus Thiollière,
 Fauna Woodlark, p. 148, 1857 (Woodlark
 Island).

Myripristis seychellensis Cuvier, Hist.
 Nat. Poiss., vol. 3, p. 172, 1829 (type
 locality, Seychelles).

— Sauvage, Hist. Nat. Madagascar,
 Poiss., p. 12, ~~1891~~ pl. 2, figs. 1-1a, 1891
 (type; type of Myripristis borbonicus).

~~Myripristis pralinus~~

1754

A 1469. Kait Point, Libani Bay, Celebes. December 29, 1909.
Length 245 mm. [A 1469.] Gray with

reddish stripes; first includes most of back from first row of scales above lateral line; second below. lateral line covers most of 5 rows anteriorly, crossing lateral line on front of caudal peduncle and divided by light stripes in middle posteriorly; lower stripe behind base of pectoral and covers about 2 rows of scales. Fins very pale reddish. Dorsal mottled with olive and caudal slightly so in central portion.

~~Myripristis borbonicus~~

Myripristis borbonicus Valenciennes, Hist. Nat. Poiss., vol. 7, p. 489, 1831 (Type locality, Mauritius). — Guichenot, Notes Ile Réunion, vol. 2, p. 24, 1862. — Bleeker, Ned. Tijds. Dierk., vol. 4, p. 94, 1865 (reference); Rés. Poiss. Madagascar, Pollen et Van Dam, pt. 4, p. 15, ⁸⁶pl. 6, 1874 (Bourbon). ✓

— Sauvage, Hist. Nat. Madagascar, Poiss., pl. 3, figs. 2, a-b, 1891 (Type). ne in description 857, p. 148, Fish.
 # Myripristis borbonius Playfair, Fishes of Zanzibar, p. 12, 1866 (reference). Bleeker).

— Bleeker, Verslag. Reisad. naar Amsterdam, vol. 15, p. 20, 1863 (Hitu, Ambona); Ned. Tijds. Dierk., vol. 4, 1864, p. 181 (Celebes, Sangi, Ternate, Ambona, Ceram, Banda).

Myripristis indicus Bleeker, Ned. Tijds. Dierk., vol. 4, p. 183, 1864 (on Günther's Celebes example); Rés. Poiss. Madagascar, Pollen et Van Dam, pt. 4, p. 86, 1874 (reference).

~~Myripristis borbonicus~~

Myripristis borbonicus Valenciennes, Hist. Nat. Poiss., vol. 7, p. 489, 1831 (Type locality, Mauritius). — Guichenot,

Notes Ile Réunion, vol. 2, p. 24, 1862.

— Bleeker, Ned. Tijds. Dierk., vol. 4, p. 94, 1865 (reference); Rés. Poiss.

Madagascar, Pollen et Van Dam, pt. 4, p. 15, ⁸⁶pl. 6, 1874 (Bourbon). ✓

Myripristis kium (Chuntrouzier) Thiollière, Fauna Woodlark, 1857, p. 148, ^(name in synonymy)

Myripristis bleekeri Günther, Cat. Fish.

Brit. Mus., vol. 1, p. 20, 1859 (on Bleeker).

— Bleeker, Verslag. Akad. Wet.

Amsterdam, vol. 15, p. 20, 1863 (Hitu, Ambona); Ned. Tijds. Dierk., vol. 4, 1864, p. 181 (Celebes, Sangi, Ternate, Ambona, Ceram, Banda).

Myripristis indicus Bleeker, Ned.

Tijds. Dierk., vol. 4, p. 183, 1864 (on Günther's Celebes example); Rés. Poiss.

Madagascar, Pollen et Van Dam, pt. 4, p. 86, 1874 (reference).

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Madagascar, 1865 (reference)
p. 158, pl. 6, 1874 (13)
Myripristis biorn (Montouzier) Thio
Myripristis bleekeri
Brit. Mus. vol. 1, 1
Bleeker, 8
Amsterdam

Myripristis multiradiatus Günther,

Journ. Mus. Godeffroy, vol. 2-3, pts. 5-6, p. 93, 1874 (type locality, Vavau, Tonga Islands). — Jenkins, Bull. U. S. Fish Comm., vol. 22, p. 438, 1902 (1903) (Honolulu). — Snyder, Bull. U. S. Fish Comm., vol. 22, p. 523, 1902 (1904) (Laysan). — Jordan and Evermann, Bull. U. S. Fish Comm., vol. 23, p. 149, 1903 (1905) (Honolulu; Hilo). — Jordan and Seale, Bull. Bur. Fisher., vol. 25, p. 222, 1905 (1906) (Pago Pago). — Kendall and Radcliffe, Mem. Mus. Comp. Zool., vol. 35, p. 93, 1912 (Rikitea; Mangarewa; Honolulu). — Fowler, Copeia, no. 112, p. 82, November 20, 1922 (Hawaiian Islands); Bull. Bishop Mus., no. 22, p. 6, 1925 (Guam), p. 31 (Samoa); Mem. Bishop Mus., vol. 10, p. 109, pl. 6 C, 1928 (Honolulu, New Guinea, Apia, Rikitea).

Myripristis symmetricus Jordan and Evermann, Bull. U. S. Fish Comm., vol. 22, p. 173, 1902 (1903) (type locality, Hilo; Honolulu); vol. 23, pt. 1, p. 151, pl. 26, 1903 (1905) (types). — Borodin, Bull. Vanderbilt Marine Mus., vol. 1, art. 2, p. 47, 1930 (Honolulu).

reflections, scale borders forming
brown network. Fins reddish, except
violet ventral.

9023. Langa Point, Luzon. June 24, 1909.

Length 238 mm.

Myripristis sanguineus (Jordan and Seale) Seale, Ocear. Pap. Bishop Mus., vol. 4, no. 1, p. 26, fig. 7, 1906 (type locality, Tahiti; Apia). — Jordan and Seale, Bull. Bur. Fisher., vol. 25, p. 221, fig. 24, 1905 (1906) (Apia).

Myripristis phaeopus Seale, Bull. Bur. Fisher., vol. 25, p. 28, fig. 8, 1905 (1906), (type locality, Nukuhiva, Marquesas Islands).

olive, scarlet at base in and outside.
Ventral hyaline olive.

18263. Tomahu Island. December
11, 1909. Length 140 mm.

6690. Hong Kong, China. August 13, 1908.
Length 290 mm. Gray, with pale spots
on scales of back and sides, lower
surfaces white. Faint trace of bronze
longitudinal stripe. Purplish streak
across preopercle. Purplish tinge
before and under eye. Inside mouth
scarlet.

Depth $2\frac{1}{3}$ to $2\frac{2}{3}$; head $2\frac{2}{3}$ to $3\frac{1}{6}$, width $1\frac{3}{4}$ to $1\frac{7}{8}$. Snout 4 to 5 in head from upper jaw tip; eye 2 to $2\frac{2}{3}$, greatly exceeds snout or interorbital; maxillary reaches $\frac{3}{5}$ to $\frac{4}{5}$ in eye, expansion $1\frac{3}{4}$ to $2\frac{1}{4}$ in eye, length $1\frac{2}{3}$ to $1\frac{7}{8}$ in head from snout tip; interorbital $2\frac{3}{4}$ to 4, low, nearly level. Gill rakers 12 to 14 + 24 to 26, lanceolate, 2 in eye; gill filaments $\frac{1}{2}$ gill rakers.

Scales 35 or 36 in lateral line to caudal base and 5 or 6 more on latter; 3 or 4 above, 7 below, 10 predorsal, 4 rows on cheeks. Scales without basal points; row of 36 to 40 apical points with long slender parallel basal elements; circuli very

D. X, 9, third spine $2\frac{2}{5}$ in head, last ^{spine} $3\frac{2}{5}$, first ray $2\frac{1}{4}$; A. III, 7, third ray $4\frac{1}{5}$, first ray $\bar{3}$; least depth of caudal peduncle 3; pectoral $1\frac{1}{4}$; ventral $1\frac{4}{5}$; caudal $2\frac{7}{8}$ in combined head and body to caudal base, deeply emarginate, lobes pointed.

Brownish. At upper preopercle angle 2 longitudinal silver lines, upper extends opposite end of depressed pectoral, lower similarly parallel. On back above lateral line 2 longitudinal gray bands and on flanks many oblique streaks formed by series of dark spots. Dorsal appears to have been spotted. Length 188 mm. (Valenciennes.)

A little known species, imperfectly known and without locality.

fine, basal, not extended apically.

D. X, I, 15, I or X, I, 16, I, fourth spine 2 to 2 ¹/₁₀ in total head length, second branched ray 1 ¹/₂ to 1 ³/₅; A. IV, 12, I or IV, 15, I, third spine 2 ³/₅ to 3, second branched ray 1 ²/₅ to 1 ⁷/₈; caudal 1 to 1 ²/₅, well forked, lobes jointed; least depth of caudal peduncle 3 ⁷/₈ to 5; pectoral 1 ¹/₅ to 1 ¹/₄; ventral 1 ²/₅ to 1 ¹/₂.

Back brown, below paler, each row of scales on body with median still paler longitudinal band, narrowing and converging at caudal peduncle. Iris light brown. Upper hind edge of gill opening and pectoral axil blackish brown. Fins all uniformly pale or light brown.

275

Cum¹⁷⁹ Pentapodus porosus (Valenciennes)
Pentapus porosus Valenciennes, Hist.
Nat. Poiss., vol. 6, 1830, p. 267, pl. 156.
No locality. $\frac{1}{m}$ Günther, Cat. Fishes
Brit. Mus., vol. 1, 1859, p. 382
(compiled).

Depth $3\frac{1}{8}$; head $3\frac{1}{8}$, width 3.
Snout 3 in head; eye $3\frac{2}{5}$, $1\frac{1}{8}$ in
snout; maxillary reaches eye,
length 3 in head; canine in front
of each jaw with row of uniformly
short teeth following; interorbital
low; preopercle edge entire or
crenulate; suborbital depth $3\frac{1}{8}$.

Scales in figure 51 in lateral line
to caudal base and 5 more non-
tubular over latter; 3 above, 7 below,
15 predorsal forward opposite eye
center, 7 rows on cheeks with broad
naked preopercle flange.

Known by its small scales, narrowly imbricated and very compact. The dark band on gill opening often extends down over humeral region to pectoral axil and broad, conspicuous blackish band. Old examples usually with external tooth like denticles at front outer face of mandible. Small examples often with dark bars on dorsal, anal and caudal lobes.

extends to pectoral base or over
prepectoral space, at first about
wide as pupil and narrowing
posteriorly. Fins all uniformly pale
or whitish.

Known only from the type, a single
specimen, No. 70243 U. S. N. M.
Sulade Island, Jolo. Length 41 mm.

659

12721. Atulayan Bay, Luzon.
June 18, 1909. Length 151 mm.

10330. Balikias Bay, Lubang
Island. July 17, 1908. Length
153 mm.

22254. Biri Channel. June 1, 1909.
Length 108 mm.

^{14/901,}
17581. Biri Channel. June 2, 1909.
^{78 to}
Length 168 mm.

9863, 16131. Bolalo Bay, Palawan.
December 21, 1908. Length 93 to 158
mm.

9035 to 9041. Bongao Anchorage,
Tawi Tawi. February 24, 1908.
Length 111 to 173 mm.

20371. Bolinao Bay, Luzon.
May 10, 1909. Length 131 mm.

8877. Buang Bay, Talajit Island.
March 15, 1909. Length 161 mm.

— Meyer, Ann. Soc. Españ. Hist. Nat.
 Madrid, vol. 14, 1885, p. 12 (Cebu; Rubi,
 New Guinea). — Duy, Fauna Brit. India,
 vol. 1, 1889, p. 500. — Jatzow and Lenz,
 Abhandl. Senckenberg. Gesell., vol. 21,
 1889, p. 499 (Zanzibar). — Elera, Cat.
 Fauna Filip., 1895, p. 469 (Cebu). —
Weber, Zool. Forschungsr. Austral.
 Semon, vol. 5, 1895, p. 263 (fresh water
 of Limbina). — Fowler, Journ. Acad.
 Nat. Sci. Phila., ser. 2, vol. 12, 1904, p.
 518 (Padang); Proc. Acad. Nat. Sci.
 Phila., 1906, p. 527 (Padang material).
 — Weber, Siboga Exped., vol. ^{57, Fische} 65, 1913, p.
 230 (Makassar).

19650. Buluan Bay, Island,
Samales Group. September 13, 1909.
Length 111 mm.

11997. Cabugan Island,
Hinunangan Island, Leyte.
July 30, 1909. Length 166 mm.

6080. Cagayanes Island.
March 31, 1909. Length 127 mm.

7629, 7630^{to}, 7632. Capunuypugan,
Mindanao. May 10, 1908. Length
100 to 133 mm.

5663 to 5665, 8988^{to}, 8990, 8992, &
11985, 11988 to 11991 - Caracaran, Butan
Island. June 8, 1909. Length 125 to
173 mm.

6882, 6884, 12260. Caxisiyan
Island. January 2, 1909. Length 93
to 203 mm.

Amia hyalozoma (Bleeker)

Apogon hyalozoma Bleeker, Nat. Tijds.
 Ned. Indië, vol. 3, 1852, p. 63. Sumatra
 (no diagnosis; on Apogon thermalis, non
Cuvier, Bleeker 1849); vol. 5, 1853, p. 329
 (Amboina; Batavia, Samarang, Java;
 Bima, Sumbawa; Benculen, Padang,
 Priaman, West Sumatra). — Günther,
 Cat. Fishes Brit. Mus., vol. 1, 1859, p. 231
 (Amboyna). — Kner, Reise Novara, Zool.,
 vol. 1, pt. 5, 1865, p. 42 (Punripet, Java).
 — Playfair, Fishes of Zanzibar, 1866, p.
 19 (fresh waters Seychelles). — Peters,
 Monatsb. Akad. Wiss. Berlin, 1868, p.
 256 (Paracali, Luzon). — Martens, Reisen
 Ost Afrika, ^{und} Secken, vol. 3, pt. 1, 1869, p.
 141 (Seychelles). — Day, Fishes of India,
 pt. 1, 1875, p. 64, pl. 17, fig. 5. — Károli,
 Termesz. Füzetek, Budapest, vol. 5, 1882,
 p. 152 (Varangoon River, Singapore).

6374. Cebu market. August 13,
1909. Length 189 mm.

7439, 7440, 21897. Dulaguenan
Island, vicinity eastern Palawan.
April 8, 1909. Length 84 to 149 mm.

¹⁸²¹³
18274. Galera Bay, Mindoro.
June 9, 1908. Length ^{155 to} 158 mm.

12693. Gandra Island. September
20, 1909. Length 100 mm.

18982 to 18984. Subat Bay, Luzon.
June 23, 1909. Length 155 to 158 mm.

4712. Lippo Point, Palawan Bay.
January 18, 1908. Length 168 mm.

20905, 20910, ²⁰⁹¹¹, Little Santa Cruz Island,
Zamboanga. May 26, 1908. Length
103 to 120 mm.

8723, 8726, 8728, 21030. Little
Santa Cruz Island. May 28, 1908.
Length 109 to 180 mm.

1 example. Catamigan Bay, Masbate.
April 18, 1908. Length 27 mm.

3 examples. Cebu market. March 28,
1909. Length 21 to 35 mm.

23167. Cebu market. September 3, 1909. Length 63 mm.

1 example. Mati, Tujada Bay, Mindoro.
May 15, 1908. Length 35 mm.

13 examples. Masipit, Mindanao.
August 1, 1909. Length 34 to 59 mm.

7 examples. Near Palay Bay, Luzon.
June 16, 1909. Length 44 to 60 mm.

30 examples. Tataan, Tawi Tawi Group.
February 20, 1908. Length 21 to 47 mm.

2 examples. Tataan. February 21, 1908.
Length 51 to 53 mm.

~~71~~ ^{6150.} ~~examples~~ Tonguil Island, east of
Gumila Reef. September 14, 1909. Length
40 to 58 mm. 72 examples.

15 examples. Daisy Islet, west of Bumbum,
Tusuan Tando Bulong, British North Borneo.
January 6, 1910. Length 43 to 58 mm.

8844, 8845. Makinog, Camiguin Island. August 3, 1909. Length 162 to 168 mm.

21288. Malanipa Island. September 8, 1909. Length 88 mm.

20024. Malapascua Island. March 16, 1909. Length 100 mm.

8013, 12983, 22944 to 22957. Maricaban Island. January 20, 1908. Length 158 to 177 mm.

10823. Murcielagos Bay, Mindanao. August 20, 1909. Length 178 mm.

17787 to 17789, 17791. Near Palay Bay, Luzon. June 16, 1909. Length 130 to 164 mm.

8740. North West Verde Island. July 22, 1908. Length 160 mm.

12585 [2121]. Dpol, Mindanao. August 4, 1909. Length 187 mm.

pupil at middle of caudal base.
Spinous dorsal blackish apically,
fin otherwise grayish. Fins all
pale otherwise, lower ones little
more whitish.

Andamans, East Indies, Philippines,
Micronesia. Bleeker's figure of this
species is inaccurate as it shows
four rows of scales across the cheek.

9617. Pagapas Bay, Luzon.

February 20, 1909. Length 173 mm.

19135. Paluan Bay, Mindoro.

December 11, 1908. Length 160 mm.

5707, ^{5907,} 8194, 8200, 12506, 18285

to 18287. Polloc, Mindanao. May 22, 1908. Length 138 to 160 mm. ¹⁰Examples.

8986, 98^{69 to}70, 9871. Prongpong Island, Palumbanes Group.

June 10, 1909. Length ¹¹³~~135~~ to 150 mm.

6340, 6341, 11686, 18867. Port

Gamelo, Luzon. July 13, 1908.

Length 140 to 180 mm.

5668, 5670, 6127. Port San Pio

Quinto, Cuyayan Island. November

10, 1908. Length 173 to 185 mm.

18185. Port San Pio Quinto.

November 11, 1908. Length 173 mm.

^{1155,} ^{1156,} 20770, 20771. Pajada Bay, Mindanao.

May 15, 1908. Length 90 to ¹¹⁵~~113~~ mm.

maxillary and suborbitals, also top of head naked; Tubes in lateral line large, well exposed, each with small basal scale. ^{scales with} 4 to 11 basal radiating striae; 40 to 65 apical denticles, sometimes with single row of basal elements; ~~and~~ circuli fine.

D. VI - I, 9, I, fourth spine $1\frac{1}{4}$ to $1\frac{4}{5}$ in head, second ray $1\frac{1}{2}$ to $1\frac{7}{8}$; A. II, 8, I, second spine $2\frac{1}{3}$ to $2\frac{7}{8}$, first ray $1\frac{2}{3}$ to $1\frac{7}{8}$; caudal $1\frac{1}{8}$ to $1\frac{1}{4}$, well emarginate; least depth of caudal peduncle $2\frac{2}{5}$ to $2\frac{3}{5}$; pectoral $1\frac{2}{5}$ to $1\frac{1}{2}$; ventral $1\frac{2}{3}$ to $1\frac{4}{5}$.

Brown, lower half of head and abdomen whitish. Blackish brown band from snout tip through eye and over postocular about wide as pupil. Small black spot, less than

20981, 22217. Rapa Rapa Island.
June 22, 1909. Length 89 to 118 mm.

19285. Rohunge collection.
Length 126 mm.

7086 to 7089, 11323, 11325.
San Roque, Leyte. July 29, 1909.
Length 118 to 166 mm.

6375, 8475, 8477, 19155, 19157,
19158. Santo Domingo de Basco, Batan
Island. November 7, 1908. Length
120 to 213 mm.

6882⁶⁸⁸³, 6885⁶⁸⁸⁶, Santo Domingo, ~~the~~
Batan Island. November 4, 1908.
Length 188 to ²¹⁵~~215~~ mm.

18152. Santo Domingo Harbor,
Batan Island. November 7, 1908.
Length 194 mm.

5219. Siasi Island. February 17,
1908. Length 190 mm.

Depth $2\frac{2}{5}$ to $2\frac{3}{5}$; head $2\frac{2}{5}$ to $2\frac{1}{2}$, width $2\frac{1}{4}$ to $2\frac{1}{3}$. Snout $3\frac{1}{2}$ to 4 in head; eye 3 to $3\frac{1}{8}$, greater than snout or interorbital; maxillary reaches $\frac{2}{5}$ to $\frac{1}{2}$ in eye, expansion $2\frac{1}{4}$ to $2\frac{1}{3}$, length $2\frac{1}{8}$ to $2\frac{1}{4}$ in head; mandible slightly shorter than upper jaw; teeth villiform, in bands in jaws, on vomer and palatines; interorbital $4\frac{3}{5}$ to 5, slightly convex; preopercle ridge entire, edge finely serrate. Gill rakers 5 + 18, lanceolate, little greater than gill filaments or $\frac{1}{3}$ of eye.

Scales 22 or 23 in lateral line to caudal base and 2 or 3 more on latter, 2 above, 6 below, 5 or 6 predorsal, 2 rows on cheek to preopercle ridge; muzzle, including

17971. Simaluc Sibi Sibi Island,
north of Tawi Tawi. September 23, 1909.
Length 154 mm.

10757, 10760. Sipadan Island.
September 28, 1909. Length 158 to 166
mm.

19120. Taganak Island.
January 7, 1909. Length 87 mm.

4639, 20711, 20721. Tambul
Siyambul, Tanguil Island. September
14, 1909. Length 79 to 163 mm.

19009, 19010, 19234. Tapiantana
Island. September 13, 1909. Length
125 to 128 mm.

11538, 11539, ~~11539~~¹¹ Tara Island.
December 15, 1908. Length 122 to 160 mm.

18199. Tara Island. December 14,
1908. Length 190 mm.

5641, 5642, 5646, 5647, 5649, 5651,
Tataan Island. February 19, 1908.
Length 126 to 141 mm.

U. S. Nat. Mus., vol. 71, 1927, p. 6 (Benkoelen,
Sumatra).

12413 to 12415, 12417. Tataan
Island. February 20, 1908.

Length 118 to 160 mm.

10456, 18951. Tilig. July 14, 1908.

Length 112 to 170 mm.

10376, 18946. Tilig. July 15, 1908.

Length 105 to 168 mm.

24022. Titu Bay, Jolo Island.
September 19, 1909. Length 78 mm.

9438. Tulayan Island.
September 15, 1909. Length 173 mm.

20958. Tomahu Island.
December 11, 1909. Length 78 mm.

18593, 18594. Talnalutan Island.
September 9, 1909. Length 125 to 147 mm.

6436, 6439, 7349. West coast
Paluai Island. November 18, 1908.
Length 173 to 185 mm.

519

Amia sangiensis (Bleeker).

Apogon sangiensis Bleeker, Nat. Tijds.
Ned. Indië, vol. 13, 1857, p. 375.

Sangir Islands. — Günther, Cat. Fishes
Brit. Mus., vol. 1, 1859, p. 235 (copied);
Journ. Mus. Godeffroy, vol. 1, pt. 1, 1873,
p. 20 (Yap). — Day, Fishes of India,
pt. 1, 1875, p. 64, pl. 17, fig. 4; Fauna
Brit. India, vol. 1, 1889, p. 500. — Weber,
Siboga Exped., vol. ^{52, Fish.} 65, 1913, p. 229 (west
coast of Binongka). — Beaufort,
Bijdr. Dierk. Amsterdam, 1913, p. 114
(Beo, Majalibit Bay, Waigiu). — Regan,
Ann. Durban Mus., vol. 1, pt. 1, 1917, p.
458 (Durban, Natal). — Barnard, Ann. South
Africa Mus., vol. 21, 1927, p. 515 (Natal coast).

Amia sangiensis Bleeker, Atlas Ichth.
Ind. Néerl., vol. 7, 1873-76, p. 95, pl. (41) 319,
fig. 4 (Sangir). — Evermann and Seale,
Bull. Bur. Fisher., vol. 26, 1906 (1909), p.
72 (Bulom). — Fowler and Bean, Proc.

21337. Birabirahon Island,
off Borneo. December 1909. Length
152 mm.

17844. Bumbum Island.
September 25, 1909. Length 162 mm.

6894. ~~Wakabaka~~ Danawan and Si
Amil Islands. September 26, 1909.
Length 148 mm.

17566. Danawan and Si Amil
Islands. September 27, 1909. Length
147 mm.

21465, 21466, 21467. Lowarra
Island. December 2, 1909. Length
105 to 148 mm.

22680. Gane Road, Gilo Island.
December 1, 1909. Length 127 mm.

21199. Gomomo Island. December 3,
1909. Length 59 mm.

8411, 8412. Hokun, Hoo Han, Formosa.
January 29, 1910. Length 155 to 187 mm.

well exposed, each with slight basal scale. Scales with 8 basal radiating striae; 41 apical denticles, with 1 or 2 transverse series of basal elements; ~~none~~ circuli fine.

D. VI - I, 9, I, third spine $2\frac{1}{10}$ in head, first ray $1\frac{4}{5}$; A. II, 8, I, second spine $2\frac{3}{5}$, first ray $1\frac{3}{5}$; caudal $1\frac{1}{2}$, emarginate behind; least depth of caudal peduncle $2\frac{3}{4}$; pectoral $1\frac{2}{3}$; ventral $1\frac{4}{10}$.

Pale brown generally, nearly uniform. Diffuse pale longitudinal band, but little darker than general color, begins on lateral line above end of pectoral and extends midway along side of caudal peduncle to caudal base and out over caudal fin. Broad blackish brown postocular band

9729, 9730, 13042. Kayoa Island,
November 21, 1909. Length 124 to 164 mm.

22670. Subuandata Bay, Gulf of
Boni, Celebes. December 13, 1909.
Length 142 mm.

17989. Limbe Strait, Celebes.
November 10, 1909. Length 178 mm.

13559 [2043]. Limbe Strait,
Celebes. November 13, 1909. Length
180 mm.

1171, 1045. Maitura Island.
November 26, 1909. Length 162 to 174 mm.

19711 [1054], 20007. Maitura
Island. November 21, 1909. Length
127 to 145 mm.

7206, 7207. Reefs of Ulu Bay, Sumatra.
November 14 to 21, 1909. Length 118 to
167 mm.

20667. Mada Island, Celebes.
November 17, 1909. Length 52 mm.

Depth $2\frac{2}{3}$; head $2\frac{2}{5}$, width 2.

Snout $4\frac{1}{3}$ in head; eye $2\frac{3}{4}$, greatly more than snout or interorbital; maxillary reaches slightly beyond eye, expansion $5\frac{1}{2}$ in eye, length $1\frac{4}{5}$ in head; teeth villiform, in bands in jaws, on vomer and palatines; interorbital $4\frac{1}{10}$, level; preopercle ridge entire, edge behind little uneven or rough and below entire. Gill rakers $5+11$, lanceolate, double gill filaments or $2\frac{1}{2}$ in eye, some few above and below as rudiments.

Scales 23 in lateral line to caudal base and 3 more on latter, 3 above, 8 below, 7 predorsal, 2 rows on cheek; head naked, except cheek and opercles. Tubes in lateral line large,

One example. Tidore Island, south
of Ternate. November 24, 1907.

Length 74 mm.

12799, 21549. Tidore Island.

November 25, 1907. Length 108 to 147 mm.

22865, 22883. Togian Bay, Togian
Island, Gulf of Tomini, Celebes.

November 19, 1907. Length 90 to 118 mm.

14064 [2107]. Uhi, Boero Island.

December 9, 1907. Length 150 mm.

9715. Una Una Road, Benang Buang
Island, Gulf of Tomini, Celebes.

November 17, 1907. Length 158 mm.

6436, 6439. West coast Pakani Island.

November 18, 1908. Length 175 to 185 mm.

11136.

Length 164 mm. Front of soft dorsal
mutilated and only 11 rays in first.

Amia diencaea Smith and Radcliffe
Amia diencaea Smith and Radcliffe,
Proc. U. S. Nat. Mus., vol. 41, 1912, p. 431,
pl. 34, fig. 1. Sulade Island, Jolo.

670

U. S. N. M., No. 30629. New Guinea.
Australian Museum. Length 133 mm.

U. S. N. M., No. 50632. Hawaiian
Islands. Bureau of Fisheries (04866).
Length 143 mm. Type of Myripristis
symmetricus.

U. S. N. M., No. 51060. Hawaiian
Islands. Bureau of Fisheries
(04847). Length 167 mm.

U. S. N. M., No. 51721. Samoa.
Bureau of Fisheries. Length 185?
mm. Type of Myripristis ranginosa.

U. S. N. M., No. 52207. Apia.
Bureau of Fisheries (07465). Length
105 to 144 mm. Three examples.

U. S. N. M., No. 52386. Apia.
Bureau of Fisheries (07461).
Length 78 to 151 mm. Five examples.

An imperfectly known doubtful
species, without locality and
not seen since originally noticed.

671
U. S. N. M., No. 554122. Laysan.
Albatross Collection. May 1902.
Length 117 to 180 mm. Five
examples.

U. S. N. M., No. 55468. Honolulu.
Bureau of Fisheries. Length 135 to
147 mm. Three examples.

U. S. N. M., No. 56208. Philippines.
Bureau of Fisheries (3228). Length
153 mm.

U. S. N. M., No. 56989. Apia.
Bureau of Fisheries. Length 78 to
118 mm. Three examples.

U. S. N. M., No. 65587. Rikitea,
Mangareva. Albatross Collection (3308).
Length 122 mm.

U. S. N. M., No. 65592. Easter Island.
Albatross Collection (3188 to 3192).
Length 170 to 206 mm. Five examples.

Case 129 Pentapodus peronii (Valenciennes)
Pentapus peronii Valenciennes, Hist.
Nat. Poiss., vol. 6, 1830, p. 264. No
locality. $\frac{1}{2}$ Günther, Cat. Fishes Brit.
Mus., vol. 1, 1859, p. 381 (compiled).

Snout obtuse, blunt at tip. Eye
small. Lips very thick. Teeth small.
Cheeks somewhat swollen; suborbitals
somewhat emarginate, with large
pore on hind border. Scales of body
very small and smooth, 50 in lateral
line. Opercle limb naked. Pectoral
short.

Black band, bordered by 2 silver
streaks, from eye to end of tail.
Two brilliant streaks on back,
one appearing to have been broken.
Belly with oblique streak of
silver dots. Length 150 mm.
(Valenciennes.)

672

Myripristis
Holocentrus amaenus (Castelnau)

Leomyripristes amaenus Castelnau,
Proc. Zool. Acclim. Soc. Victoria,
vol. 2, p. 99, 1873 (type locality,
Hob or Knob Island) — Mc

Culloch and Whitley, Mem.
Queensland Mus., vol. 8, pt. 2, p.
139, July 7, 1925 (reference).
— Mc Culloch, Mem. Austral. Mus.,
vol. 5, ^{pt. 15} p. 134, June 29, 1929 (reference).

— Macleay, Proc. Linn. Soc. New South
Wales, vol. 5, pt. 4, p. 513, November
24, 1880 (copied).

221

6345. Port Maricaban, Luzon.

July 21, 1908. Length 252 mm. Orange band from pectoral to caudal peduncle.

8278. San Miguel Island, Tabaco Bay. June 4, 1909. Length 208 mm.

A 641. Simalue Sibi Sibi Island.

September 23, 1907. Length 284 mm.

4999 and 5000. Vinzons Island, Tawi Tawi Group. February 24, 1908. Length 220 to 223 mm. Pale olivaceous,

crossed by 8 or 9 very indistinct darker bars along side. Distinct salmon red band from pectoral axil to lower side of caudal peduncle.

7850. Tayanata Island. January 7, 1909. Length 280 mm. Pale reddish bands on side, 3 below lateral line wide as pupil. Inside mouth scarlet, but not to gill opening. Fins reddish.

Depth 3 in total; head $3\frac{2}{3}$.

(eye $2\frac{1}{3}$ in head; snout protrudes over mouth; lower jaw rather longer than upper; maxillary reaches $\frac{1}{2}$ in eye, striated; preopercle very strongly serrated, opercle strongly serrated, with rather long spine, below 2 shorter ones, over long spine rather deep indenture surmounted by moderate spine; infraorbital serrated.

Scales 35 in lateral line; 3 above, 5 below.

D. X, I, 15, second spine longest, soft dorsal almost united with first, its spine long, fin long as highest spines; A. IV, 14, third spine longest; caudal rays 19; pectoral 14; ventral I, 7,

low; preopercle edge entire.

Scales on back, belly and flanks nearly uniform in size, smaller on chest, caudal base and opercles; predorsal scales apparently forward $\frac{1}{2}$ in eye?; about 13 rows on cheek to preopercle ridge, flange apparently scaleless.

D. X, 10, spines uniformly high after third or 2 in head, rays little higher; A. III, 9, third spine longest or $2\frac{7}{8}$, rays little higher; caudal $1\frac{1}{5}$, deeply emarginate, lobes pointed; least depth of caudal peduncle $3\frac{1}{3}$; pectoral 1, not reaching anal; ventral $1\frac{1}{5}$.

Back violet, clear blue below, scales bordered green. Front part of dorsal blue, soft fin deep violet. Anal more clear, base with 4 round black spots. Dorsal and anal with

spine rather long, arched, slender,
fin placed little behind pectoral.

Shiny golden, back grey.
Head and fins bright yellow.

Length 57 mm. (Castelnau.)

Knob Island, Queensland.

Castelnau describes "the upper part of the head presents the singular sculptures which are also observable in Myripristis and Holocentrum; they are formed of ridges which have on top of the head the form of a very long quadrilateral; behind this, on each side, there is a bunch of ridges which are disposed in a radiated and rather pinnated way; over the orbit other ridges are apparent; this form an angle a little in front of the centre of the eye, and then are radiated

D. XII, 10, I, fourth spine $2\frac{1}{2}$ in total head length, first ray 3; A. III, 8, third spine $3\frac{2}{5}$ (damaged), first ray $3\frac{4}{5}$; caudal $1\frac{1}{2}$, moderately emarginate, lobes pointed; least depth of caudal peduncle $3\frac{1}{10}$; pectoral $1\frac{1}{3}$; ventral 2.

Brownish to olivaceous on head above and back, with silvered and brassy reflections on sides below, which region generally paler. Iris reddish brown. Along most of side of body below lateral line each row of scales with median slightly darker longitudinal band medial on each scale row.

Fins dull brown.

South Africa, Natal. Known by its fine scales on the cheek, slightly protruding mandible, cheek and preopercular flange scaled.

obliquely to the anterior end of
the above-mentioned quadrilateral.

to $1\frac{1}{5}$ in same with age; canines moderate to strong; hind nostril elongate orate. Gill rakers 14 to 16 below.

Scales 57 to 61 in lateral line; 9 or 10 above, 15 to 20 below, predorsal scales extend forward to front nostril; 7 to 11 rows on cheeks with preopercle flange scaly with age.

D. XII, 10, fourth and fifth spines longest, equal postorbital; A. III, 9.

Rose red, shading white on belly, with silvery, golden and metallic blue, green or violet green reflections on back. Four to 6 irregular wavy, narrow, longitudinal, cobalt or ultramarine blue streaks, uppermost along dorsal fin base; each streak bordered above and below (uppermost ~~un~~bordered below only) with pink. Cloudy

676

Myripristis murdjan (Forskål)

Viaena murdjan Forskål, Descript.

Animal., pp. XII, 48, 1775 (type locality,
Arabia). — Gmelin, Syst. Nat. Linn.,

— Bonnaterre, Tabl. Ichth., p. 120, 1788 rtedi
(Red Sea).

Ichth.

pède

Brown, p. —
(Hist. Nat. Poiss., vol. 4, pp. 396, 418,
1802 (Arabia)).

Perca murdjan

Myripristis murdjan Rüppell, Atlas
Reise nördl. Afrika, Fische, p. 86, pl. 23,
fig. 2, 1828 (Mochila). — Cuvier,
Hist. Nat. Poiss., vol. 3, p. 177, 1829
(Red Sea).

— Valenciennes, Hist. Nat. Poiss., vol. 7, p.
372, 1831 (Red Sea). — Rüppell,
Neue Wirbelth., Fische, p. 95, 1835 (Red Sea).

— Bleeker, Nat. Tijds. Ned. Indië, vol.
4, p. (92) 109, 1853 (Amboina); vol. 5, p.
320, 1853 (Amboina); vol. 6, p. 457, 1854
(Amboina); vol. 8, p. 392, 1855 (Amboina);
p. 445 (Kobor Keeling Islands); vol. 12,

676

Myripristis murdjan (Forskål)

Vraena murdjan Forskål, Descript.

Animal., pp. ~~XII~~, 48, 1775 (type locality, Arabia). — Gmelin, Syst. Nat. Linn., p. 1301, 1788 (copied). — Walbaum, Arted. Pisc., vol. 3, p. 316, 1792 (copied).

Perca murdjan Schneider, Syst. Ichth.

Bloch, p. 86, 1801 (copied). — Lacépède, Hist. Nat. Poiss., vol. 4, pp. 396, 418, 1802 (Arabia).

Perca murdjan ✓

Myripristis murdjan Rüppell, Atlas

Reise nördl. Afrika, Fische, p. 86, pl. 23, fig. 2, 1828 (Mochila). — Cuvier, Hist. Nat. Poiss., vol. 3, p. 177, 1829 (Red Sea).

— Valenciennes, Hist. Nat. Poiss., vol. 7, p. 372, 1831 (Red Sea). — Rüppell, Neue Wirbelth., Fische, p. 95, 1835 (Red Sea).

— Bleeker, Nat. Tijds. Ned. Indië, vol. 4, p. (92) 109, 1853 (Amboina); vol. 5, p. 320, 1853 (Amboina); vol. 6, p. 457, 1854 (Amboina); vol. 8, p. 392, 1855 (Amboina); p. 445 (Kobor Keeling Islands); vol. 12,

- p. 230, 1856 (Batu); vol. 15, p. 198, 1858 (Goram); Act. Soc. Sci. Ind. Néerl., vol. 1, no. 3, p. 3, 1856 (Manado); vol. 1, no. 5, p. 4, 1856 (Amboina); vol. 2, no. 7, p. 3, 1857 (Amboina). — Günther, Cat. Fish. Brit. Mus., vol. 1, p. 21, 1859 (Red Sea; India).
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- Playfair, Fishes of Zanzibar, p. 51, 1866 (Zanzibar; Aden).
- Bleeker, Ned. Tijds. Dierk., vol. 4, p. 188, 1874 (Java, Cocos, Batu, Celebes, Amboina, Ceram, Goram). — Günther, Journ. Mus. Godeffroy, vol. 2-3, pts. 5-6, p. 92, 1874 (Kingsmills, Hervey, Paumotu, Hawaii).
- Day, Fishes of India, pt. , p. 170, 18 .
- Peters, Monatsb. Akad. Wiss. Berlin, p. 835, 1876 (1877) (New Britain). —
- Schmeltz, Cat. Mus. Godeffroy, no. 7, p. 36, 1879 (Samoa). — Günther, Rep. Voy. Challenger, vol. 1, pt. 6, p. 34, 1880 (Ovalau, Fiji). — Klunzinger, Fische Roth. Meer., vol. 1, p. 77, 1884. — Pöhl, Cat. Mus. Godeffroy, no. 9, p. 30, 1884 (Samoa; Viti).

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Laysan, Samoa). — Seale, Occas. Pap.
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Savaii). — Evermann and Seale, Bull.
Bur. Fisher., vol. 26, p. 60, 1906 (1907)
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Bull. Bur. Fisher., vol. 27, p. 247,
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241, 1907 (Zamboanga). — Tanaka,
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Johnston, Wake.

ull. Bishop M

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p. 31, 1925 (Samoa); Mem. Bishop
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Mangareva; Apia; Rikitea).

53093 to 53095 A.N.S.P. Delagoa
Bay, Portuguese East Africa. July 1923.
H.W. Bell Marley.
Length 127 to 213 mm.

53132 A.N.S.P. Bombay, India.
Prof. F. Hallberg. 1924. Purchased.
Length 175 mm.

? Myripristis maculatus Steindachner,
Verh. zool. Bot. Ges. Wien, pt. 1, p. 73,
 1861 (type locality, no locality).

Myripristis berndti Jordan and
Evermann, Bull. U. S. Fish Comm.,
 vol. 22, p. 170, 1902 (1903) (type locality,
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Nat. Sci. Philadelphia, p. 222, 1904
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Bull. U. S. Fish Comm., vol. 23, pt. 1, p.
 153, fig. 54, 1903 (1905) (Honolulu).

~~Myripristis schultzei Seale~~

Myripristis schultzei Seale, Philippine
Journ. Sci., vol. 4, no. 6, p. 504, November
1909 (type locality, Samal Island, Gulf
of Davao).

clear, with 3 dusky cross bars. (1466)

10706, 10707, 10709. Catangan Bay,
Masbate. April 19, 1909. Length 75 to 111 mm.

1 example. Catangan Bay, Dumurug
Point, Masbate. April 19, 1908. Length 94 mm.

Depth 2 to $2\frac{1}{2}$; head $2\frac{1}{2}$ to 3, width $1\frac{2}{3}$ to 3. Snout $4\frac{1}{3}$ to $5\frac{1}{5}$ in head from snout tip; eye $2\frac{1}{10}$ to $2\frac{2}{5}$, greatly exceeds snout or interorbital; maxillary reaches $\frac{3}{4}$ to $\frac{7}{8}$ in eye, expansion $1\frac{3}{4}$ to $2\frac{3}{4}$ in eye, length $1\frac{3}{4}$ to $1\frac{7}{8}$ in head from snout tip; interorbital $3\frac{1}{2}$ to 4, low, broadly convex. Gill rakers 13 or 14 + 26 to 28, lanceolate, 2 to $2\frac{1}{6}$ in eye; gill filaments $\frac{4}{5}$ of gill rakers.

Scales 28 to 30 in lateral line to caudal base and 3 to 5 more on latter; 3 above, 7 below, 8 to 10 predorsal, 4 rows on cheeks. Scales with 2 to 7 low median basal lobate points giving off as many radiating striae; row of 25 to 67 apical denticles,

9023. Lango Point, Luzon. June 24,
1901. Length 242 mm.

32703 U.S.N.M. Indian Archipelago,
Royal Museum of Leiden. Length 234 mm.

5817 U.S.N.M. Zamboanga. Dr.
E.A. Mearns. Length 310 mm.

27630 A.N.S.P. Palang, Sumatra.
Harrison and Miller. Length 276 mm.
When fresh in ~~orange~~ brown, darker
above. Side with about 7 rather broad
null longitudinal orange yellow
bands. Inside gill opening orange red.
Peritoneum silvery.

uniserial to 4 irregular transverse series; circuli very fine, basal, not extended apically.

D. X, I, I, 13, I or X, I, I, 14, I, third spine 2 to $2\frac{1}{5}$ in total head length, first branched ray $1\frac{1}{3}$ to $1\frac{3}{4}$; A. IV, I, 12, I, third spine $2\frac{1}{5}$ to 3, first ray $1\frac{1}{3}$ to $1\frac{4}{5}$; caudal 1 to $1\frac{1}{4}$, widely forked; least depth of caudal peduncle $3\frac{1}{10}$ to $4\frac{1}{3}$; pectoral $1\frac{1}{4}$ to $1\frac{2}{5}$; ventral $1\frac{2}{5}$ to $1\frac{2}{3}$.

Back brown, sides and below pale brown to whitish, usually brassy in preserved specimens. Iris yellowish brown. Upper hind edge of gill opening and pectoral axil blackish. Fins pale or light brown, often little darker at front of soft dorsal

brown. Iris brownish yellow.

Ceylon, East Indies, Philippines.

My examples seem to agree with Bleeker's figure largely in the pale longitudinal bands, though at present quite indistinct.

Bleeker does not accept Lethrinus erythrinus Valenciennes as a synonym, as placed by Day, as he found the young of the present species marked like the adults and without the black lateral blotch or fine black longitudinal streaks.

and anal lobes.

Red Sea, Arabia, Zanzibar, Madagascar, Natal, India, Ceylon, East Indies, Philippines, Riu Kiu, Melanesia, Micronesia, Polynesia, Hawaii. Variation is seen in the large series at hand, especially with reference to the upper dark gill edge, sometimes almost entirely faded out in alcoholic specimens, though the black axillary pectoral blotch always present or persistent.

Myripristis schultzei Seale differs but slightly from the present species and as the majority of its characters are in agreement I conclude it to be synonymous. As it is described as "washed with violet above" he

6 above, 14 to 16 below, 9 predorsal; caudal and pectoral bases finely scaled. Scales with 16 basal radiating striae; 100 apical denticles with 4 to 6 transverse series of basal elements; circuli very fine.

D. X, 9, I, fourth spine $2\frac{2}{3}$ to $2\frac{4}{5}$ in head, fourth ray $2\frac{1}{8}$ to $2\frac{1}{3}$; A. III, 8, I, third spine $3\frac{1}{8}$ to $3\frac{1}{3}$, first ray $2\frac{3}{4}$ to $3\frac{1}{5}$; caudal $1\frac{1}{8}$ to $1\frac{1}{4}$, deeply emarginate; least depth of caudal peduncle $2\frac{4}{5}$ to $2\frac{7}{8}$; pectoral 1 to $1\frac{1}{8}$; ventral $1\frac{2}{5}$ to $1\frac{3}{5}$.

Brown generally. Head drab or slightly darker than body color. Along middle of side an indistinct pale longitudinal axial band from head to caudal peduncle; two similar shorter parallel bands above and another below. Iris golden brown. Fins pale

he says it is related to
M. violaceus, a species of
Bleeker, which Weber and
Beaufort include as a synonym
of the present species.

I have placed the nominal hyripristis
maculatus Steindachner, without
type locality or dimensions as
a likely synonym.

3 1/4

✓ 10. *Oplegnathus fasciatus* (Schlegel)
Variation.

✓ 11. *Oplegnathus insignis* (Kner)
Young.

✓ 12. *Oplegnathus punctatus* (Schlegel)
Young.

✓ 13. *Gerres lucidus* Cuvier
Young.

✓ 14. *Gerres abbreviatus* Bleeker
Young.

✓ 15. *Gerres proieti* Cuvier
Young.

✓ 16. *Gerres oyena* (Forsk.)
Young.

✓ 17. *Gerres oblongus* Cuvier
Young.

✓ 18. *Gerres filamentosus* Cuvier
Young.

✓ 19. *Pseudupeneus pleurospilos* (Bleeker)
Young.

Depth $2 \frac{10}{13}$; head 4 in total length. Eye $4 \frac{1}{2}$ in head; maxillary reaches $\frac{3}{4}$ in eye, expansion equals eye.

Scales 29 in lateral line, 3 above, 7 below, 3 rows on cheek.

D. X, I, 14, fourth spine $\frac{3}{8}$ body depth, second ray 2; A. IV, 13, third spine $\frac{1}{2}$ body depth, first ray longest; caudal - deeply emarginate; pectoral 5 in total length, rays II, 13; ventral rays I, 7; fin shorter than pectoral.

Golden yellow. Inner side and upper border of pectoral base black. Behind scapula and upper part of humerus large dark blotch, ~~it extends through~~

Dentex hypselosoma Bleeker, Natuurk.

Tydschr. Nederland. Indië, vol. 6, 1854, p. 402. Nagasaki; Verhandel. Batavia. Genootsch., no. 4, vol. 26, 1854-57, p. 89, pl. 4, fig. 2

(Nagasaki). $\frac{1}{n}$ Günther, Cat. Fishes British Mus., vol. 1, 1857, p. 371 (copied). $\frac{1}{n}$ Martens, Preuss. Exped. Ost Asien, 1876, p. 387 (Yokohama).

$\frac{1}{n}$ Károli, Termesz. Füzetek, Budapest, vol. 5, 1881, p. 154 (Hakuri). $\frac{1}{n}$ Steindachner, Ann.

Hofmus. Wien, vol. 11, 1876, p. 199 (Kobe, Hiogo, Nagasaki). $\frac{1}{n}$ Jordan and Snyder, Annot.

Zool. Japon., vol. 3, 1901, p. 77 (Nagasaki).

Dentex hypselosoma Jordan and Evermann,

Proc. U. S. Nat. Mus., vol. 25, 1903, p. 345, fig. 17 (Formosa). $\frac{1}{n}$ Jordan and Richardson, Mem.

Carnegie Mus., vol. 4, no. 4, 1909, p. 185 (Takao).

Synagris hypselosoma Bleeker, Verhandel.

Kon. Akad. Wetensch. Amsterdam, vol. 13, no.

3, 1873, p. 40 (Nagasaki); Atlas Ichth. Ind.

~~XXXXXX~~ shaded into several of
each scale rows. (Steindachner.)

~~XXXXXXXXXXXXXXXXXXXX~~

~~XXXXXX~~

Raius tumifrons Jordan and Thompson,
 Proc. U. S. Nat. Mus., vol. 41, 1912, p. 571, fig.
 8 (Takao, Formosa). $\frac{1}{m}$ Snyder, Proc. U. S.
 Nat. Mus., vol. 42, 1912, p. 415 (Kagoshima).
 $\frac{1}{3}$ Jordan and Metc., Mem. Carnegie Mus.,
 vol. 6, no. 1, June 1913, p. 54 (Trushima
 Straits). $\frac{1}{m}$ Unaka, Fishes of Japan, vol. 21,
 1915, p. 374, pl. 102, fig. 314 (South Japan,
 Formosa, China). $\frac{1}{3}$ Jordan and Hubbs, Mem.
 Carnegie Mus., vol. 10, no. 2, June 27, 1925, p. 241
 (Tokyo, Kobe, Kagoshima, Misaki, Toyama,
 Miyazu). $\frac{1}{3}$ Ashima, Jap. Journ. Zool. Trans.
 Abstracts, vol. 1, no. 5, March 31, 1927, figs. 2-3
 (Keelung, Tong King Bay). $\frac{1}{m}$ Fowler, Proc.
 Acad. Nat. Sci. Philadelphia, 1929 (1930), p.
 592 (Nagasaki), p. 596 (Shanghai), p. 607 (Hong
 Kong).

Raius tumifrons Jordan and Richardson, Mem.
 Carnegie Mus., vol. 6, no. 4, Sep. 1914, p. 256
 (Misaki, Trushima Straits) (error).

5686. Agajo Point, Catanduanes Island. - June 10, 1909. Length 173 mm.

9259 to 9262, 9589, 9591, 9592. Lilibijaban Island, Ragay Gulf, Luzon. March 6, 1909. Length 173 to 196 mm.

17713, 19272. Alimango Bay, Burias Island. March 5, 1909. Length 172 to 192 mm.

12719. Ituluyan Bay, Luzon. June 18, 1909. Length 125 mm.

7729. Bayanga Bay, Mindanao. May 13, 1908. Length 202 mm.

10329, 17905. Balikian Bay, Lubang Island. July 17, 1908. Length 126 to 180 mm.

17578 to 17580, 17582. Birin Channel. June 2, 1909. Length 158 to 173 mm.

September 19, 1909. Length 40 to 50 mm.
 [1962.] Without lateral stripe. Dusky
 band across preorbital, continued
 obscurely across premaxillary and
 mandible tip, behind eye extends
 across opercle. Vertical fins hyaline
 pink, somewhat brownish line at anal
 base on body, much less distinct on
 dorsal. Brown stripe through each
 caudal lobe.

2 examples. Ulugan Bay near mouth of
 Baheli River. December 28, 1908. Length 41
 to 42 mm.

79 examples. Tomaha Island, Bouru.
 December 12, 1909. Length 48 to 52 mm.
 Male with buccal row.

16 examples. Makassar ~~Island~~, Celebes.
 December 16, 1909. Length 41 to 51 mm.

²³⁴¹⁵
~~23415~~ Game Road, Gilolo Island.
 December 1, 1909. Length 37 mm.

6121 to 6125, 20366, 20368,
20369, 20376. Bolinao Bay, Luzon.
May 10, 1909. Length 143 to 173 mm.

9042, 9043. Pangao Anchorage,
Tawi Tawi. February 24, 1908.
Length 169 to 182 mm.

8880. Buang Bay, Salajit Island.
March 15, 1907. Length 177 mm.

21303. Buluan Island, Jolo.
February 14, 1908. Length 73 mm.

19260, ¹⁹²⁶¹ Busbus Point, Hiasa
Island, September 20, 1907. Length
to 205
195 mm.

22773. Busin Harbor, Burias
Island. April 23, 1908. Length 135
mm.

10804, 10806, 22269. Butauanan
Island, east coast Luzon. June 13,
1909. Length 88 to 191 mm.

3 examples. Bolalo Bay, Palawan Island. December 21, 1908. Length 40 to 45 mm.

4 examples. Bolinao Bay, west Luzon. May 10, 1909. Length 40 to 43 mm.

1 example. Busin, Burias Island. March 8, 1909. Length 39 mm.

5 examples. Canmahala Bay, Luzon. March 11, 1909. Length 40 to 47 mm.

8 examples. Port Jamelo, Luzon. July 13, 1909. Length 33 to 47 mm.

1 example. Port Palapag, Luzon. June 3, 1909. Length 45 mm.

16 examples. Rasa Island, Mantaguin Bay, Palawan. April 1, 1909. Length 32 to 43 mm.

2 examples. Tataan Island, Sulu Archipelago. February 21, 1908. Length 47 to 49 mm.

1 type, no. — ~~See L. N. 100~~

66 examples. Tutu Bay, Jolo Island.

695

6079. Cagayan Island,
Cagayan Islands, Jolo Sea.
March 31, 1909. Length 154 mm.

19442. Cagayan de Jolo,
January 8, 1909. Length 63 mm.

5892. Calangaman Island,
between Leyte and Cebu. March 16, 1909.
Length 157 mm.

9758. Camp Overton, Mindanao.
August 6, 1909. Length 183 mm.

12364 to 12367. Candaraman
Island. January 14, 1909. Length
119 to 168 mm.

7633 to 7635. Capunaypuyan
Point, Mindanao. May 10, 1908.
Length 158 to 170 mm.

1 example. Tonguil Island, east of
Carmila Bay, south of Zamboanga.
September 14, 1909. Length 58 mm.

8040. Tumindao Island. February
26, 1908. Length 71 mm. Male with
buccal ova.

23121. Danawan and Vi Simil
Islands, near Darvel Bay, Borneo.
September 27, 1909. Length 63 mm.

23775. Great Tobea Island, Buton
Strait. December 15, 1909. Length 20 to
76 mm. 9 examples. [2154] Pearl
gray, with numerous olive stripes.
Side of head olivaceous with white
stripe through lower eye from

5658 to 5661, 8991, 8993, to 8997,
9218, 9220, 11994. Caracaran
Bay, Batan Island. June 8, 1909.
Length 90 to 182 mm.

11650. Casogoran, Malhon
Island, between Leyte and Samar.
July 27, 1909. Length 165 mm.

6887 to 6889. Caxisigan Island,
North Balabac Strait. January 2,
1909. Length 168 to 176 mm.

18380. Cebu market. April 4,
1908. Length 190 mm.

8124 to 8127. Dasol Bay, Luzon.
May 9, 1909. Length 113 to 168 mm.

5249. Endeavour Strait,
Malampaya Sound, Palawan.
December 23, 1908. Length 187 mm.

in blotch at caudal base. Head yellowish green. Pearl gray through lower eye edge, across snout and on posterior part of head. Similar stripe under eye across cheek and preopercle angle. Posterior and lower parts of head bronze and green. Iris dark. Spinous dorsal with third and posterior membranes yellowish, spines lilac and tips of first 4 or 5 scarlet. Soft fins orange, pectoral very pale, caudal membranes in fork of fin citron yellow and anal with dusky bar at base posteriorly.

697

14377. Galvaney Island, Ragay
Gulf, Luzon. March 9, 1909. Length
108 mm.

18981. Gubat Bay, Luzon.
June 23, 1909. Length 184 mm.

6141. Hinunangan Bay, Leyte.
July 30, 1909. Length 140 mm.

7142, 11082. Inamuan Bay,
Mindanao. August 8, 1909. Length
163 to 180 mm.

22426, 22816. Jolo. March 6-7,
1908. Length 68 to 93 mm.

21139. Ligpo Point, Balayan Bay,
Verde Island Passage. January 18,
1908. Length 109 mm.

7030. Limbones Cove, Luzon.
January 14, 1908. Length 157 mm.

23845 and 23846. Pandanon Island.
March 23, 1909. Length 65 to 67 mm.

23354. Pangasinan Island, near
Jolo. February 13, 1908. Length 64
mm.

23163. Puerta Princesa, Palawan
Island. April 5, 1909. Length 62 mm.

23211 and 23212. Reefs south lagoon,
Tumindao Island, Sulu Archipelago.
February 26, 1908. Length 70 to 79 mm.

23296, ²³⁸⁷⁰ 1, Tataan, Simalue Island.
February 19, 1908. Length 61 to 66 mm.

[159.] Ground color olive gray, with
many narrow dark olive green
stripes irregularly alternate narrower
and wider and median one ends

698
7919 to 7923. Limbones Cove.

February 8, 1909. Length 185 to 200 mm.

11905. Limpanigan Island.

September 11, 1909. Length 179 mm.

20906 to 20909. Little Santa Cruz Island, Zamboanga. May 26, 1908. Length 103 to 145 mm.

6664 to 6668, 8722, 8724, 18725, 8727, 18540. Little Santa Cruz Island. May 28, 1908. Length 95 to 182 mm.

15209. Mactan Island, Cebu. March 25, 1909. Length 200 mm.

5767, 6454, 6455, 8841, 11382. Makinog, Camiguin Island. August 3, 1909. Length 160 to 187 mm.

14314. Makesi Island, Palawan. April 5, 1909. Length 173 mm.

12155. Malcochin Harbor, Linapacan Island. December 19, 1908. Length 162 mm.

over postocular to tip of opercle.
Fins very pale to whitish, caudal
with brownish band submarginally
above and below along each lobe.

East Indies, Philippines.

4729,

22958.

(699)

12985, 12987, Maricaban Island.

January 20, 1908. Length 160 to 195 mm.

11818, 11819. Matnog Bay, east coast Luzon. May 31, 1909. Length 175 to 185 mm.

to 9896.

9890, 9891, 9893, ~~9894~~, Murcielago Bay, Mindanao. August 7, 1907. Length $15\frac{4}{5}$ to 179 mm.

7495, 7496. Murcielago Bay. August 21, 1907. Length 160 to 180 mm.

17790,

17792. Near Palua Bay, Luzon.

June 16, 1907. Length $14\frac{1}{2}$ to 174 mm.

9184, 9186. Opol, Mindanao. August 4, 1907. Length 168 to 178 mm.

8213, 12847. Nagapara Bay, Luzon. February 20, 1907. Length 136 to 173 mm.

latter, 2 above, 6 below, 3 predorsal, 2 rows on cheek; head, except cheek and opercles, naked. Tubes in lateral line slender, well exposed, simple, ^{scales with} 3 or 4 weak basal marginal striae; circuli moderate.

D. VI - I, 9, I, third spine ^{$2\frac{1}{3}$ to 3} in total head length, first ray $1\frac{3}{4}$ to $2\frac{1}{10}$; A. II, 9, I, second spine $3\frac{1}{2}$ to 4, first ray $1\frac{4}{5}$ to $2\frac{1}{10}$; caudal $1\frac{1}{4}$ to $1\frac{2}{5}$, deeply forked; least depth of caudal peduncle $3\frac{1}{2}$ to $3\frac{3}{5}$; pectoral $1\frac{1}{2}$ to $1\frac{4}{5}$; ventral $2\frac{1}{4}$ to $2\frac{2}{5}$.

Very pale or light brown, with silvery white shade on opercle. Tip of snout and chin dusky, former usually extended as narrow dusky brown bar to eye, crossing same horizontally and back indistinctly

9387 to 9389, 19133, 19134. Paluan Bay, Mindoro. December 11, 1908. Length 155 to 186 mm. One with dark longitudinal bar on lower caudal lobe posteriorly.

17758. Pandanon Island. March 23, 1909. Length 209 mm. 8202, 5906, 8193, 8196, 8197, 8204,

8205, 18284. Polloc, Mindanao. May 22, 1908. Length 132 to 158 mm. 9 examples.

8972, 9873. Porongpong, Palumbanes Islands, east coast Luzon. June 10, 1909. Length 158 to 168 mm.

12608. Porongpong. June 11, 1909. Length 183? mm.

14717. Port Banalacan, Marinduque. February 23, 1909. Length 203 mm.

Depth $3\frac{2}{5}$ to $3\frac{3}{5}$; head $2\frac{3}{5}$ to $2\frac{3}{4}$, width $2\frac{1}{2}$ to $2\frac{3}{4}$. Snout 4 to $4\frac{1}{3}$ in head from snout tip; eye $3\frac{2}{5}$ to $3\frac{1}{2}$, greater than snout or interorbital; maxillary reaches $\frac{1}{2}$ to $\frac{2}{3}$ in eye, expansion $2\frac{1}{3}$ to $2\frac{1}{2}$, length 2 to $2\frac{1}{10}$ in head; teeth minute, in narrow bands in jaws, on vomer and palatines; interorbital 4 to $4\frac{1}{2}$, very slightly convex; preorbital edge, also preopercle edge and ridge entire; suborbital, preopercle and cranial regions venulose. Gill rakers 5 + 11, of which 2 upper rudiments, others lanceolate and greatly longer than gill filaments or 2 in eye.

Scales 22 or 23 in lateral line to caudal base and 2 or 3 more on

6502. Port Calton, Busuanga Island. December 15, 1908.

Length 180 mm.

^{6834,}

6935, 13105. Port Galera, Mindoro. June 9, 1908. Length 163 to 178 mm.

12426. Port Galera. October 27, 1909. Length 170 mm.

6334 to 6339, 6343, 18868. Port Zamelo, Luzon. July 13, 1908. Length 130 to 208 mm.

17627. Port Lungan, Palawan. April 8, 1909. Length 152 mm.

10331. Port Maricaban, Luzon. July 17, 1908. Length 165 mm.

8012, 8014. Port Maricaban. July 21, 1908. Length 135 to 144 mm.

18352, 18353. Port Matalvi, Luzon. November 22, 1908. Length 133 to 159 mm.

23589 to 23591. Tifu Bay, Bouro Island. December 10, 1909. Length 32 to 55 mm. 24 examples.

2 examples, Tugian Bay, Tugian Island, Gulf of Tomini, Celebes. November 19, 1909. Length 41 to 45 mm.

7 examples. Pendek Island, Buton Strait. December 15, 1909. Length 36 to 47 mm.

13298, 24052, 24053. Yomomo Island, Pitt Passage. December 3, 1909. Length 27 to 57 mm.

52407 U.S.N.M. Apia, Samoa. Bureau of Fisheries. Length 45 to 54 mm. 5 examples.
As Mionorus graeffi.

5064. Port Matalvi. November
23, 1908. Length 142 mm.

14463. Port Palapag, Luzon.
June 2, 1909. Length 187 mm.

5669, 6128, 6129. Port San
Pio Quinto, Camiguin Island.

November 10, 1908. Length 186 to 192 mm.

18184. Port San Pio Quinto.

November 11, 1908. Length 91 mm.

6140, 20725, 20726. Puerta
Princesa, Palawan Island. April 5,
1909. Length 114 to 175 mm.

13409. Rapu Rapu Island.

June 22, 1909. Length 121 mm.

6407, ^{6408,} 6410, 11176, 19239. Rasa
Island, Mantaguin Bay, Palawan.
April 1, 1909. Length 128 to 154 mm.

7395, 7396. Romblon Harbor,
Romblon. March 25, 1905. Length
186 to 197 mm.

534

20750. Sebalie Island, Borneo. October
1, 1909. Length 131 mm.

²³⁸⁸⁶
24010 [2079]. Powati Harbor, Makyan
Bay, Makyan Island, Molucca Passage.
November 28, 1909. Length ^{to 113} 43 mm.

Translucent, with vermilion dusting.
Dusky vermilion stripe from snout to
caudal spot. Iris silvery. Fins
vermilion. Caudal brown at tips.

8276, 17283, 17284, 17590. San
Miguel Island, Tabaco Bay.
June 4, 1901. Length 162 to 204 mm.

6881. Santo Domingo, Batan.
November 7, 1908. Length 203 mm.

8476, 19061. Santo Domingo de
Basco, Batan. November 7, 1908.
Length 119 to 182 mm.

11922. Siasi Island market.
February 17, 1908. Length 172 mm.

10756. Sipadan Island.
September 28, 1909. Length 179 mm.

17970, 17969. Simaluc, Bisbis
Island, north of Tawi Tawi.
September 23, 1909. Length 156 to 167 mm.

20055. Southern Lagoon,
Tumindao Island, Sulu Archipelago.
February 26, 1908. Length 80 mm.

5121, 20036. Surigao, Mindanao.
May 8, 1908. Length 90 to 185 mm.

1 example. Paluan River, Mindor.

December 11, 1908. Length 57 mm.

7597 to 7601, 19636. Pancol, from creek
at head of tide water, Malampaya
Island, Palawan. December 25, 1908.
Length 121 to 154 mm.

11 examples. Pangauran River, Port
Cultram, Busuanga Island. December 16,
1908. Length 40 to 46 mm.

23885. Port Talapag, Luzon. June 2, 1909.
Length 105 mm.

3 examples. Port San Pio Quinto,
Carmagnin Island. November 11, 1908. Length
55 to 124 mm.

4993 and 4994, 23403. Rungas River, Rungas
Gulf, fresh water, Luzon. March 10, 1909.

Length 73 to 160 mm. Palawan Island. Length 45 mm.

1 example. Stream near village at Chase Head, Eniwor Strait, December 22, 1908.

20 examples. Verde del Sur Island,
Palawan Island. April 7, 1909. Length 75 to
160 mm.

704

19118, 19119. Taganak Island,
Zolo Sea. January 7, 1909. Length
158 to 164 mm.

20712. Tambul Sigumbul.
September 14, 1909. Length 143 mm.

19011. Tapiantana Island, south
of Zamboanga. September 13, 1909.
Length ^{49 to} 140 mm. 2 examples.

11535, 11536. Tara Island. December
15, 1908. Length 115 to 137 mm.

5643^{to}, 5645, 5648, 5650, 5652, 5653.
Tataan Island. February 19, 1908.
Length 95 to 168 mm.

7506^{to} 7511, 8218 to 8221, 12198
[180, 182]^{12 to} 73 Tataan Island. February
20, 1908. Length ~~140~~⁷³ to 164 mm.

14491. Tomahu Island. December
12, 1907. Length ^{54 to} 77 mm. 6 examples.

18952, 18953. Tiliq, Lubang. July 14,
1906. Length 173 to 190 mm.

11397. Ioni River, Tayabas Bay,
Marinduque Island. February 25, 1909.
Length 150 mm.

12310 to 12313. Lagonoy Gulf, stream
at Maagnas, Luzon. June 17, 1909. Length
110 to 141 mm.

6217 to 6220. Mantaguin Bay, eastern
Palawan. April 2, 1909. Length 112 to 148
mm.

11675. Mariveles Bay, Luzon. January
30, 1909. Length 131 mm.

23596 and 23597. Noto River tidal, Luzon.
June 18, 1909. Length 29 to 151 mm.
7 examples.

9 examples. Near mouth of Tayabas River,
Luzon. February 25, 1909. Length 29 to 130 mm.
One male with buccal ovum.

23804 to 23811. Nonucan River, Camp
Overton, Mindanao Island. August 6,
1909. Length 69 to 133 mm.

10328, 10382, ^{18943,} 18744, 18745. Jilig.

July 15, 1908. Length 158 to 163 mm.
18590. Tuluatutan Island.

September 8, 1909. Length 163 mm.

18592, 18904. Tuluatutan
Island. September 9, 1909.

Length 143 to 153 mm.

6637, 6639, 6662. Varadero Bay,
Mindoro. July 23, 1908. Length
198 to 210 mm.

6435, 6438. West coast Palau
Island. November 18, 1908. Length
122 to 182 mm.

9393. Zamboanga market.
September 7, 1909. Length 257 mm.
Only tips of lobes of soft vertical
fins each with blackish spot.

23205 and 23206. Alimango River,
Burias Islands. February 26, 1908.
Length 107 to 138 mm.

5484. Basud River, Luzon. June 15, 1909.
Length ^{40 to} 144 mm. 7 examples.

9 specimens. Raihola River, Ulugan Bay,
Palawan Island. December 29, 1908. Length
70 to 103 mm.

9 specimens. Cammahala Bay, Ragay Gulf,
Luzon. March 11, 1909. Length 152 to 156 mm.
Of these 4 males with buccal ova.

23887 and 23888. Cataringan Bay, Masbate
Island. April 18, 1908. Length 50 to 105 mm.

11510 to 11513. Dumaca River. February
25, 1909. Length 133 to 156 mm.

23540 to 23542. Hakoda Bay, Palawan
Island. December 31, 1908. Length 108 to 133 mm.

6558 and 6559. Head of Baheli River,
Ulagan Bay, Palawan Island. December
28, 1908. Length 135 to 141 mm.

A 1300. Binang Unang Island,
Gulf of Tomini, Celebes. November 18,
1909. Length 208 mm.

21336. Birabirahan Island,
off Borneo. December 1909. Length
179 mm.

12910. Buka Buka Island,
Gulf of Tomini, Celebes. November 20,
1909. Length 118 mm.

12064, 12066, 12067, 20035. Bumbum
Island. September 25, 1909. Length
182 to 199 mm.

11042. Cape Kait, Libani Bay, Celebes.
December 29, 1909. Length 201 mm.

17567. Danawan and Si Amil
Islands. September 27, 1909. Length
140 mm.

9510, 9516. Dosepo and Pasejogo
Islands, Gulf of Tomini, Celebes.
November 16, 1909. Length 155 to 192 mm.

an eye at caudal base medianly.
Spinous dorsal with dusky or
neutral black band on front of
~~first~~ ^{second} membrane close along and
behind second spine. Small neutral
dusky spot each side at base of last
anal ray, in young reflected variously
as dark diffuse blotch on lower side
of caudal peduncle. Our smallest
examples show the dark caudal spot
rather diffuse and less contrasted than
with age. They also have the bases of
soft dorsal and anal decidedly dark
brown.

Zanzibar, Seychelles, East Indies,
Philippines, Melanesia

Smaller specimen an unusual variation with several blackish blotches scattered on the body, several on each soft vertical and pectoral fins.

13236, 21468. Dowarra Island. December 2, 1909. Length 162 to 164 mm.

22681. Gane Road, Giliolo Island. December 1, 1909. Length 58 mm.

19783, 19784. Gomo Island. December 3, 1909. Length 99 to 115 mm. Larger specimen with blackish submarginal longitudinal band on front dorsal and anal lobes and each caudal lobe.

12691 [1969]. Gondra Island. September 20, 1909. Length 173 mm.

13087, 13089. Kapopoxang Island. December 28, 1909. Length 170 to 175 mm.

crumpled scale. ^{Scales with} 17 basal radiating striae; 46 to 186 apical denticles, with 2 to 16 transverse series of basal elements; ~~and~~ circuli fine.

D. VII - I, 8, I or 9, I, second spine $1\frac{7}{8}$ to $2\frac{1}{4}$ in total head length, second ray $1\frac{3}{5}$ to $1\frac{4}{5}$; A. II, 8, I, second spine $2\frac{3}{5}$ to $3\frac{3}{4}$, second ray $1\frac{3}{4}$ to $2\frac{1}{5}$; caudal $1\frac{1}{3}$ to $1\frac{2}{5}$, hind edge slightly emarginate; least depth of caudal peduncle $2\frac{2}{5}$ to $2\frac{3}{5}$; pectoral $1\frac{2}{3}$ to $1\frac{3}{4}$; ventral $1\frac{4}{5}$ to $1\frac{7}{8}$.

Brown, sides and lower surfaces much paler. Often brassy tinge on middle of side. Muzzle with more less drab brown or gray. Iris pale, with neutral gray tints. Dorsals and caudal brownish, other fins paler. Ventral black blotch, nearly large

7217, 7218. Limbe Strait, Celebes.

November 9, 1909. Length 174 mm.

9776, 9980, 18449. Maitara Island. November 26, 1909. Length 165 to 190 mm.

21289. Malanipa Island. September 8, 1909. Length 60 mm. Blackish streaks in dorsal, anal and caudal lobes.

7018 to 7021, 12557. Reefs in Apru Bay, Guam. November 19-21, 1907. Length 150 to 182 mm.

21378^{215.4}, 21379^{215.4}. Talisse Island. November 9, 1909. Length 65^{to 120} mm.

A 1413. Tampungana Island. December 31, 1909. Length 203 mm.

17911¹⁷⁹¹¹, 18114. Tanabeke Island, Celebes. December 31, 1909. Length ^{of both} 173 mm.

22310. Tilore Island, south of Ternate. November 29, 1909. Length 67 mm.

Depth $2\frac{1}{5}$ to $2\frac{1}{2}$; head $2\frac{1}{5}$ to $2\frac{1}{4}$, width $2\frac{1}{6}$ to $2\frac{1}{4}$. Snout $3\frac{5}{6}$ to $4\frac{1}{8}$ in head from snout tip; eye 3 to 4, greater than snout or interorbital; maxillary reaches opposite hind eye edge, opposite hind pupil edge in young, expansion $1\frac{3}{5}$ to $1\frac{4}{5}$ in eye, length $1\frac{3}{4}$ to 2 in head; teeth fine, villiform, in bands in jaws, on vomer and palatines; interorbital $4\frac{1}{2}$ to 5, level; preopercle edge and ridge entire. Gill rakers 2+5, also 2 rudiments above and 4 below; long as gill filaments or $2\frac{1}{2}$ in eye.

Scales 20 to 25 in lateral line to caudal base and 4 or 5 more on latter, 3 above, 6 or 7 below, 8 predorsal, 2 rows on cheek to preopercle ridge. Tubes in lateral line large, simple, well exposed, each with small, basal,

21258. Tifu Bay, Boero Island.
December 10, 1909. Length 43 mm.

A 1300, 14065 [2110], 18190 [2115],
19776 [2117]. Uki, Boero Island.
December 9, 1909. Length 170 to 202
mm. 5 examples.

9716, 9717. Una Una Road,
Binang Bunang Island, Gulf of
Tomini, Celebes. November 17,
1909. Length 133 to 176 mm.

Amia hyalosoma Bleeker, Atlas Ichth.

Ind. Néerl., vol. 7, 1873-76, p. 96, pl.

(31) 309, fig. 1 (Sumatra, Nias, Singapore, Biliton, Java, Sumbawa, Celebes, Amboina, Luzon). — Jordan and Richardson, Bull. Bur. Fisher., vol. 27, 1907

(1908), p. 254 (Mindoro and Calayan).

— Seale, Philippine Journ. Sci., vol. 5, no. 4, 1910, p. 274 (Sungai, Borneo).

Lipogon thermali (non Cuvier) Bleeker, Verh. Batavian. Genootsch. (Perc.), vol. 22, 1849, p. 27 (Batavia and Samarang, Java).

Lipogon armatus Thiollière, Fauna Woodlark, 1857, p. 144. Woodlark Island.

U. S. N. M., No. 6451. Tahiti.

710

William Stimpson. Length 147 mm.

U. S. N. M., No. 6459. Tahiti.

William Stimpson. Length 195 mm.

U. S. N. M., No. 30591. New Guinea.
Australian Museum. As Myripristis
adustus. Tips of soft dorsal and
anal lobes and hind caudal edge
blackish.

U. S. N. M., No. 34809. Upia, Samoa.
Dr. W. H. Jones. Length 168 to 188 mm.
Two examples.

U. S. N. M., No. 50033. Coco Island.
R. E. Snodgrass and E. L. Heller.
Length 260 mm.

U. S. N. M., No. 50056. Zamboanga.
August 1906. Dr. E. A. Mearns.
Length 200 mm. As Myripristis
microlepis.

Depth $2\frac{1}{3}$ to $2\frac{3}{5}$; head $2\frac{4}{5}$ to 3, width $1\frac{4}{5}$ to $2\frac{1}{8}$. Snout $1\frac{9}{10}$ to 2 in head; eye $3\frac{1}{3}$ to $4\frac{1}{4}$, $1\frac{3}{4}$ to $1\frac{7}{8}$ in snout, $1\frac{1}{10}$ to $1\frac{1}{4}$ in interorbital; maxillary reaches opposite front nostril, length $2\frac{2}{3}$ to $2\frac{3}{4}$ in head; upper lip moderately fleshy; teeth in broad villiform bands anteriorly in jaws, with outer row enlarged and largely conic, of which 4 in front above and below canine like and last 2 or 3 on each side molar like; interorbital 3 to 4, broadly and slightly convex; naked region of head finely rugose or striate. Gill rakers 4 or 5 + 5, short low tubercles, about half of gill filaments.

Scales 44 to 46 in lateral line to caudal base and 2 more on latter;

711

U. S. N. M., no. 50627. Honolulu.
Bureau of Fisheries (03346). Length
225 mm. Type of Myripristis
berndti.

U. S. N. M., no. 51093. Hawaiian
Islands. Bureau of Fisheries
(04859). Length 188 mm.

U. S. N. M., no. 52390. Apia.
Bureau of Fisheries (07453). Length
104 to 171 mm. Eight examples.
As Myripristis microphthalmus.

U. S. N. M., no. 52404. Apia.
Bureau of Fisheries (07467). Length
65 to 150 mm. As Myripristis
adustus. Colored like no. 30591.

U. S. N. M., no. 52412. Apia, Samoa.
Bureau of Fisheries (07469).
Length 67 to 162 mm. Twelve
examples.

Mem. Bishop Mus., vol. 10, 1928, p. 214
 (compiled); Proc. Acad. Nat. Sci.
 Philadelphia, 1927 (1930), p. 642 (Padang).
Lethrinus xanthotaenia Bleeker, Natuurk.
 Tijdschr. Nederland. Indië, vol. 2, 1851,
 p. 176, West Sumatra. Gunther, Cat. Fishes
 Brit. Mus., vol. 1, 1857, p. 461 (compiled).
 $\frac{1}{4}$ Seale and Bean, Proc. U. S. Nat. Mus.,
 vol. 33, 1907, p. 244 (Zamboanga).
 ? Lethrinus unilineatus Macleay, Proc.
 Linn. Soc. New South Wales, vol. 7, 1883, p.
 247. New Guinea.

U. S. N. M., no. 55143. Honolulu.
 Albatross Collection. May 8, 1902.
 Length 103 to 135 mm. As
Myripristis berndti. Two examples.

U. S. N. M., no. 55520. Hawaiian
 Islands. Bureau of Fisheries
 (2635) (0488, 04853, 04855, 04859).
 Length 97 to 245 mm.

U. S. N. M., no. 56022. Philippines.
 Bureau of Fisheries (3250). Length
 187? mm. As Myripristis microphthalmus.

U. S. N. M., no. 56037. Mindanao.
 Bureau of Fisheries (3363). Length
 148 mm. As Myripristis sanguineus.

U. S. N. M., no. 56071. Philippines.
 Bureau of Fisheries (3235). Length
 187 mm.

U. S. N. M., no. 56990. Apia, Samoa.
 Bureau of Fisheries (07470). Length
 68 to 110 mm. Vix examples.

177

Can¹²⁹ Lethrinus erythrinus Valenciennes

Lethrinus erythrinus Valenciennes, Hist.
nat. Poiss., vol. 6, 1830, p. 293. Ceylon.

(Young.)

mus. Nat. Paris;

Lethrinus ornatus Valenciennes, F. Brit.,

vol. 6, 1830, p. 316. Java. $\frac{1}{m}$ Day, Fishes of
India, pt. 1, 1875, p. 137. $\frac{1}{m}$ Bleeker,

Atlas Ichth. Ind. Néerland., vol. 8, 1876-
77, p. 118, pl. (72) 350, fig. 4 (Sumatra,

Java, Bali, Celebes, Flores, Timor,

Ternate, Ceram, Amboina, Banda, Goram,

Uru, New Guinea). $\frac{1}{m}$ Day, Fauna

British India, Fishes, vol. 2, 1887, p. 40.

$\frac{1}{m}$ Fowler, Journ. Acad. Nat. Sci.

Philadelphia, series 2, vol. 12, 1904, p. 527

(Padang). $\frac{1}{m}$ Herre and Montalban,

Philippine Journ. Sci., vol. 33, no. 4, 1927,

p. 422, pl. 7, fig. 1 (Luna, Manila Bay,

Catapan, Halsey Harbor, Bantayan,

Zamboanga, Malangas). $\frac{1}{m}$ Fowler,

U. S. N. M., No. 58058. Zamboanga.
Dr. E. A. Mearns. August 1906.
Length 204 mm.

U. S. N. M., No. 65585. Rikitea,
Fangareva. Albatross Collection.
Length 150 mm. As Myripristis
microphthalmus.

U. S. N. M., No. 65586. Rikitea.
Albatross Collection (3305, 3306).
Length 150 to 163 mm. As
Myripristis microphthalmus.

52439 U.S.N.M. Apia, Samoa. Bureau
of Fisheries (no. 02429). Length 296? to 302
mm. 2 examples.

65904 U.S.N.M. Eri Tari, Gilbert
Islands. Albatross Collection. Length
183 to 244 mm. 2 examples.

52969 A.N.S.P. 'Faté', New Hebrides. April-
May 1903. Alvin Seale. Bishop Museum (1080).
Length 98 mm.

Myripristis adustus Bleeker

- Myripristis adustus Bleeker, Nat. Tijds.
Ned. Indië, vol. 4, p. (92) 108, 1853
(type locality, Amboina); vol. 6, p. 457,
1854 (Amboina); vol. 8, p. 296, 1855
(Ternate), p. 306 (Batoe), p. 392 (Amboina);
vol. 11, p. 385, 1856 (Kajeli, Buru); vol.
12, p. 192, 1856 (Ternate), p. 230 (Batu);
vol. 13, p. 371, 1857 (Sangi); Act. Soc.
Sci. Ind. Néerl., vol. 2, no. 7, p. 3, 1857
(Amboina). — Günther, Cat. Fish. Brit.
Mus., vol. 1, p. 22, 1859 (Amboyna).
— Playfair, Fish. of Zanzibar, p. 51, 1860 (Zanzibar).
— Schmeltz, Cat. Mus. Godeffroy, no. 3, p. 6,
1866 (Samba). — Bleeker, Ned. Tijds.
Dierk., vol. 4, p. 193, 1874 (Batu, Sangi,
Ternate, Buru, Amboina, Letti). —
Schmeltz, Cat. Mus. Godeffroy, no. 7, p. 36,
1879 (Samoa). — Macleay, Proc. Linn.
Soc. New South Wales, vol. 7, p. 352, 1882
(New Guinea); vol. 8, p. 265, 1883 (Hood
Bay, New Guinea). — Pöhl, Cat. Mus.
Godeffroy, no. 9, p. 30, 1884 (South Seas).
— Sadler, Occas. Pap. Bishop Mus., vol.
4, no. 1, p. 26, 1906 (Tahiti; Shortland
Island). — Jordan and Seale, Bull.

Bur. Fisher., vol. 25, p. 220, 1905 (1906)
 (Samoa). — Fowler, Bull. Bishop Mus.,
 no. 22, p. 6, 1925 (Guam), p. 31 (Samoa);
 no. 38, p. 8, 1927 (Christmas Island);
 Mem. Bishop Mus., vol. 10, p. 106, pl. 6B,
 1928 (Tahiti, New Guinea, Apia, Gilbert,
 Society Islands); vol. 11, no. 5, p. 323,
 1931 (reference).

Myripristes adusta Schmeltz, Cat. Mus.
Godeffroy, no. 4, p. 12, 1869 (Samoa).

Myripristes murdjan var. adusta
Günther, Journ. Mus. Godeffroy, vol.
 2-3, pts. 5-6, p. 92, pl. 62, 1874.

Myripristes murdjan var. adustus
Steindachner, Abhandl. Senckenberg.
 Gesell., vol. 25, p. 426, 1900 (Ternate).

This very strongly marked species, though almost entirely to be distinguished by its coloration, appears to be valid. Its features are principally its black bordered vertical fins and ~~the~~ each scale of the body with a dark edge on the exposure forming a contrasted reticulated pattern. The front surface of the lower jaw with many large and strong exterior tooth like denticles.

5 below; single row of large scales on cheek, 3 predorsal scales ^{scales with} 13 to 18 basal radiating striae, with scalloped edge to scale; 75 to 80 small apical denticles, with 1 or 2 transverse series of basal elements; ~~and~~ circuli fine.

D. VI - I, 9, I, third spine $2\frac{1}{8}$ to $2\frac{1}{5}$ in total head length, first ray $1\frac{2}{5}$ to $1\frac{3}{5}$; A. II, 16, I or 17, I, second spine $2\frac{3}{5}$ to $2\frac{3}{4}$, first ray $1\frac{2}{3}$ to 2; caudal $1\frac{1}{8}$ to $1\frac{1}{4}$, little emarginate behind; caudal peduncle depth $2\frac{2}{5}$ to $2\frac{4}{5}$; pectoral $1\frac{1}{4}$ to $1\frac{1}{3}$; ventral $1\frac{7}{8}$ to 2.

Brown, paler and much lighter on sides and below. Side of head and body sprinkled with numerous deep brown spots, forming transverse lines on trunk and tail. Lower side of

A 526. Buluan Island.

September 13, 1909. Length 280 mm.

5657. Caracaran, Batan Island. June 8, 1909. Length 190 mm.

8240. Galvane Island, Ragay Gulf, Luzon. March 9, 1909. Length 260 mm.

5157, 17886 to 17888. Zolo, Zolo Reefs. March 6, 1908. Length 151 to 192 mm.

7928. Limbones Cove, Manila Bay. February 8, 1909. Length 190 mm.

A 768. Malul Island. September 29, 1909. Length 245 mm.

8051 to 8054. Mompog and Anabayas Islands. March 2, 1909. Length 263 to 285 mm.

7022. Port Van Pio Quinto, Camiguin Island. November 10, 1908. Length 287 mm.

Depth $2\frac{1}{4}$ to $2\frac{1}{3}$; head $2\frac{2}{5}$ to $2\frac{1}{2}$, width $2\frac{1}{2}$ to $2\frac{3}{5}$. Snout $4\frac{2}{5}$ to 5 in head from snout tip; eye 3 to $3\frac{1}{5}$, greater than snout or interorbital; maxillary reaches half way in eye, expansion $2\frac{1}{5}$ to $2\frac{2}{3}$, length 2 in head; teeth villiform, in bands in jaws, on vomer and palatines; interorbital 4 to $4\frac{1}{2}$; preopercle ridge with broad flat spine at angle (around) entire, lower edge and angle minutely serrate, upper hind edge entire. Gill rakers 6 + 13, lanceolate, greatly longer than gill filaments or $1\frac{2}{3}$ in eye.

Scales 24 in lateral line to caudal base and 4 more on latter, 2 above, 6 below, 6 predorsal, 2 rows on cheek to preopercle ridge; muzzle, including maxillary, suborbital and interorbital, naked. Tubercles in lateral line large, well exposed, each with small (basal scale?)

A 1086, A 1087. Matura Island.

November 26, 1909. Length 205 to 250 mm.

A 703. Ni Amil Island, Borneo.
September 26, 1909. Length 215 mm.

A 668 to A 672. Titankai Island,
Borneo. September 24, 1909. Length
205 to 282 mm.

Subgenus Archamia Gill

Body deep, depth less than 3.

Species seldom with dark median longitudinal band.

7319. Sablayan Bay, Mindoro. ⁷¹⁹
December 12, 1908. Length 215 mm.
6554, 12194. San Roque, Leyte.
July 29, 1909. Length 170 to 177
mm.

A 453 to A 455, A 464, A 465.
Tulnolutan Island. September 9,
1909. Length 225 to 267 mm.

11043. Cape Kait, Libani Bay,
Celebes. December 29, 1909. Length
165 mm.

7793. Danawan and Si Amil Islands,
vicinity of Darvel Bay, Borneo.
September 27, 1909. Length 178 mm.

A 864. Limbu Strait, vicinity Strait
Island, north of Celebes. November
10, 1909. Length 298 mm.

Archamia bleekeri (Günther)

Apozon bleekeri Günther, Cat. Fishes Brit. Mus., vol. 1, 1859, p. 245. Amboyna.

Archamia bleekeri Fowler, Journ. Acad.

Nat. Sci. Phila., ser. 2, vol. 12, 1904, p. 519

(Padang, Sumatra). — Evermann and Seale,

Bull. Bur. Fisher., vol. 26, 1906 (1907), p.

75 (Bacon and San Fabian).

Apozon macropterus (non Cuvier) Bleeker,

Nat. Tijds. Ned. Indië, vol. 2, 1851, p. 168

(Padang).

Myripristis melanostictus Bleeker

Myripristis melanostictus Bleeker,
Ned. Tijds. Dierk., vol. 1, p. (228) 237,
1863 (type locality, Ternate); vol. 4,
p. 187, 1874 (Ternate). — Weber and
Beaufort, Fishes Indo Austral. Archip.,
vol. 5, p. 258, 1929 (Batavia, Tandjong
Pandau, Makassar, Flores, Buru, Ternate,
type of Myripristis melanostictus).

Myripristis botche (not Cuvier) Bleeker,
Verh. Batavia. Genoot. (Percoid.), vol.
22, p. 52, 1849 (Batavia); (hal. Ich.
Bengal), vol. 25, p. 34, 1853 (reference).
— Kner, Reise Novara, Fische, pl. 1, fig. 1,
1865.

Myripristis botche Kner, Reise Novara,
Fische, p. 5, 1865 (Java).

Myripristis hexagonus (not Lacépède)
Bleeker, Act. Soc. Sci. Ind. Néerl. (Enum.
Pisc.), vol. 3, p. 262, 1852 (reference).

Myripristis macrolepis Bleeker, Ned.
Tijds. Dierk., vol. 4, p. 195, 1874
 (Java, Nias, Celebes, Buru, Amboina).
Evermann and Seale, Bull. Bur.
Fisher., vol. 26, p. 60, 1906 (1907)
 (Zamboanga). — Seale and Bean,
Proc. U. S. Nat. Mus., vol. 33, p. 241, 1907
 (Zamboanga). — Snyder, Proc. U. S.
Nat. Mus., vol. 42, p. 410, 1912 (Tanegashima);
 p. 495 (Okinawa). — Jordan, Tanaka,
Snyder, Journ. College Sci. Tokyo, vol.
 33, p. 117, 1913 (reference). — Weber,
Siboga Exped., vol. 57, Fische, p. 186,
 1913 (Macassar, Celebes).
 — Fowler, New. Bishop Mus., vol. 10, p.
 107, 1928 (New Guinea).

Myripristis melanostigma Bleeker, Atlas
Ichth. Ind. Néerl., vol. 9, pl. (1) 355,
 fig. 3, 1877.

Myripristis macrolepis Bleeker, Atlas
Ichth. Ind. Néerl., vol. 9, pl. (5) 359,
 fig. 3, 1877. — Seale and Bean, Proc. U. S.
Nat. Mus., vol. 33, p. 241, 1907 (Zamboanga).
 — Evermann and Seale, Bull. Bur. Fisher., vol.
 26, p. 60, 1906 (1907) (Zamboanga).

One example [16932]. Gubat,
Igorogon, Luzon. June 23, 1909.
Length 205 mm.

13557, 13558. Limbe Strait,
Celebes. November 13, 1909. Length
187 to 190 mm.

Subgenus Lepidamia Gill

Body elongate, depth more than half length. Scales small, 56 in lateral line.

723

Myripristis trachyacron Bleeker

Myripristis trachyacron Bleeker, Versl.
Afk. Wet. Amsterdam, vol. 15, p. (20) 24,
1863 (type locality, Hitu, Amboina);
Ned. Tijds. Dierk., vol. 4, p. 185, 1864
(Amboina); — Weber and Beaufort,
Fishes Indo Austral. Archip., vol. 5,
p. 257, 1929 (type).

(Atlas Ichth. Ind. Néerl., vol. 9, pl. (4)
358, fig. 5, 1877.

18510 [1308]. Canmahala Bay,
Ragay Gulf, Luzon. March 11, 1909.
Length 75 to 113 mm. 6 examples.
Olive gray, specked with darker.
Transverse dusky bars scarcely extend
to ventral contour of body. Head
olive gray, top specked with paler;
cheeks with few dusky bars of general
olivaceous shade. Lower half of body
and under surfaces of head and
breast whitish. Inside mouth not
red. Dorsals spotted with olive,
membranes clear. Anal clear. Caudal
irregularly barred with brown.
Pectorals very pale pink. Ventrals

Depth $2\frac{2}{5}$; head $2\frac{4}{5}$. Snout
 $4\frac{3}{5}$ in head from snout tip; eye
 $2\frac{1}{4}$, greatly exceeds ^{or interorbital} snout;
 maxillary reaches $\frac{2}{3}$ in eye,
 expansion $1\frac{3}{4}$ in eye, length
 2 in head from snout tip;
 lower hind edge with coarse
 tubercular teeth; teeth in jaws
 rather large; conspicuous
 patch of teeth each side of chin
 below usual patches in lower
 jaw; interorbital $3\frac{1}{10}$, low.
 Gill rakers below 30.

Scales 32 in lateral line;
 3 above, 6 below, 4 rows on
 cheek; ^{8 predorsal} frontals, which divide
 to form fontanel in interorbital
 region ~~and~~ with arborescent
 relief, covering whole bone so

407

Can 179 Synagris mesoprion (Bleeker)
Sentex mesoprion Bleeker, Naturk.
Tijdschr. Nederland. Indië, vol. 4, 1853,
p. 255. Priaman, Sumatra; Atlas
Ichth. Ind. Néerland., vol. 8, 1876-77,
p. 92, pl. (50) 328, fig. 4 (Sumatra;
Singapore). Fowler, Journ. Acad.
Nat. Sci. Philadelphia, series 2, vol. 12,
1904, p. 527 (Padang), Proc. Acad. Nat.
Sci. Philadelphia, 1929 (1930), p. 645
(Padang specimen).

Depth $3\frac{1}{4}$; head $3\frac{1}{4}$, ~~snout~~ width
 $2\frac{1}{5}$. Snout 3 in head; eye 4, $1\frac{2}{5}$ in
snout, greater than interorbital; maxillary
reaches $\frac{1}{8}$ in eye, expansion 2 in eye,
length $2\frac{3}{5}$ in head; teeth in villiform
bands in jaws, with outer row in
each slightly enlarged and anterior upper
front ones at 7 still larger canines;
interorbital $4\frac{4}{5}$, level; hind preopercle

upper side of head completely rough.

D. $\overline{\text{I}}$, $\overline{\text{I}}$, 15 (16 on Bleeker's figure), third spine $2\frac{1}{10}$ in total head length, second ray $1\frac{7}{8}$; A. $\overline{\text{IV}}$, 13 (14 on Bleeker's figure), third spine $1\frac{2}{3}$, first branched ray $1\frac{2}{5}$; caudal 1, widely forked; least depth of caudal peduncle $3\frac{7}{8}$; pectoral $1\frac{1}{10}$, rays $\overline{\text{I}}$, 14; ventral rays $\overline{\text{I}}$, 7, fin $1\frac{1}{3}$ in total head length.

Uniform reddish brown. Length 159 mm. (Bleeker; Weber and Beaufort.)

Ambonia. Bleeker's colored figure shows the upper surface of the head, jaws, opercles, spinous dorsal edge, also

~~List of Illustrations~~
Explanation of plates

2

Figure

- ✓ 1. *Lethrinus miniatus* (Schneider)
Young; upper figure head, lower detail.
- ✓ 2. *Lethrinus karaka* (Forskål)
Young.
- ✓ 3. *Lethrinus kallopterus* Bleeker
Young.
- ✓ 4. *Lethrinus nebulosus* (Forskål)
Young.
- ✓ 5. *Lethrinus variegatus* Valenciennes
Young.
- ✓ 6. *Lethrinus genivittatus* Valenciennes
Young.
- ✓ 7. *Symphonus spilurus* Günther
Three figures of variation.
- ✓ 8. *Sparus verda* Forskål
Young.
- ✓ 9. *Oplegnathus fasciatus* (Schlegel)
Young.

most of fins and edges of
large scales below lateral line
more or less golden. This
species only known from the
type.

15190. Busin Harbor. March 7, 1909.

Length 216 mm.

21941. Cagayan, Sulu. January 8, 1909.

Length 168 mm.

7789. Candaraman Island, Balabac.

January 4, 1909. Length 255 mm.

8278. Cunnahala Bay, Luzon. March 11, 1909. Length 303 mm.

12737. Capulaan Bay, Pagbilao Island.

February 24, 1909. Length 133 mm.

8722, 8724. Caracaran, Batan Island.

June 28, 1909. Length 262 to 290 mm.

5538. Catangan Bay, Masbate. April

18, 1908. Length 305 mm. On upper

surface of body centers of scales dusky olive, broadly bordered with brownish olive; middle of side more or less tinged with orange brown. Indistinct dusky bars

Myripristis carneus Ramsay and Ogilby

Myripristis carneus Ramsay and Ogilby,
Proc. Linn. Soc. New South Wales, ser. 2,
vol. 1, p. 474, 1886 (type locality,
Admiralty Islands). — Fowler, Mem.
Bishop Mus., vol. 10, p. 109, 1928 (copied).

Depth $2\frac{4}{9}$ in total; head $2\frac{4}{10}$.
 Snout $3\frac{4}{5}$ in head; eye $3\frac{4}{5}$,
 greater than interorbital;
 maxillary with few blunt
 denticulations in front, reaches
 behind orbit; upper jaw
 rather overlapping lower; chin
 with very slight prominence;
 jaws vomer and palatines with
 numerous, small, rounded
 molariform teeth; posterior
 edge of hind nostril serrated;
 interorbital $\frac{5}{8}$ of eye or 6 in
 head.

Scales 36 in lateral line;
 4 above, 9 below.

D. XII, 15, fourth spine rather
 more than 3 in head, but little
 shorter than rays; A. IV, 11, fourth

488
com^{ra} Sentex tumifrons (Schlegel)

Chrysophrys tumifrons Schlegel, Fauna
Japonica, Poiss., pts. 2-4, 1843, p. 70,
pl. 34. Nagasaki Bay.

Pagrus tumifrons Günther, Cat. Fishes British
Mus., vol. 1, 1859, p. 470 (copied). $\frac{1}{n}$ hystrom,

Kon. Svensk. Vet. Akad. Handlingar,
Stockholm, vol. 13, no. 4, 1887, p. (Nagasaki).

$\frac{1}{n}$ Károli, Termesz. Füzetek, Budapest, vol.
5, 1881, p. 157 (Nagasaki).

$\frac{1}{n}$ Ishikawa and Matsuura, Prelim. Cat. Fishes
Mus. Tokyo, 1897, p. 53. $\frac{1}{n}$ Jordan and Snyder,
Annot. Zool. Japon., vol. 3, 1901, p. 79 (Nagasaki).

$\frac{1}{n}$ Kisinoye, Journ. Fish. Bur. Tokyo, vol. 10,
1901, no. 3, p. 38, pls. 3, 5 figs. 5-8, pl. 7, fig. 2
(Hondo, Shikoku, Kuroshu, Formosa). $\frac{1}{n}$ Franz,
Abhandl. Kon. Bayer. Akad. Wiss., vol. 4,
Suppl. Band 1, 1910, p. 47 (Aburatsubo).

Sparus tumifrons Bleeker, Verhandl. Kon.
Akad. Amsterdam, vol. 18, ~~no.~~ 1, 1879, p. 7
(name only). (Enum. Poiss. Japan),

spine longest, not so strong as
third; pectoral rays 16, fin
 $2\frac{1}{2}$ in head; ventral little
shorter than pectoral, rays
I, 7; caudal forked, lobes
rounded.

Uniform red. Length 133 mm.

(Ramsay and Ogilby-)

Admiralty Islands.

blackish blotch on lateral line below
about opposite sixth dorsal spine.
Dorsal grayish or violaceous. Anal
pale bluish. Caudal and pectoral rosy.
Ventral whitish. In preserved
specimens streaks become dark, with
more or less distinct light borders.
Reaches 900 mm. (Barnard.)
South Africa.

Myripristis vittatus Valenciennes

Myripristis vittatus Valenciennes, Hist. Nat. Poiss., vol. 7, p. 492, 1831 (type locality, Mauritius). — Bleeker, Rés. Poiss. Madagascar, Pöllen et Van Dam, pt. 4, p. 86, 1874 (reference).

— Günther, Cat. Fish. Brit. Mus., vol. 1, p. 24, 1859 (reference). — Playfair, Fishes of Zanzibar, p. IX, 1866 (reference).

— Sauvage, Hist. Nat. Madagascar, Poiss., p. 21, pl. 5, fig. 2, 1891 (type).

A 1400, A 1402. Tampuan Island,
Flores Sea. December 21, 1909. Length
260 to ~~320~~ mm. (A 1400.) Scales silvery
gray, with opaque median spot, small
on back and becoming slightly
elongated on middle of side where
margined with live. Head olive
brown; opercular flap bright scarlet;
few red shades about eye; inside
mouth scarlet, none showing on
preopercle membranes. Dorsals pale,
mottled with light vermilion. Anals
somewhat like dorsals, markings
broader. Caudal like dorsals,
mottling finer. Pectoral very pale

Depth $2\frac{2}{5}$; head $2\frac{1}{2}$. Snout $5\frac{1}{4}$ in head from snout tip; eye $2\frac{1}{10}$, greatly exceeds snout or interorbital; maxillary reaches $\frac{3}{5}$ in eye, expansion $1\frac{9}{10}$ in eye, length 2 in head from snout tip, lower edge with few small denticles below expansion; interorbital flat, $\frac{2}{3}$ of eye.

Scales 36 in lateral line (38 on figure); 3 above, 6 below, 3 rows on cheek.

D. X, I, 14 (on figure XI, I, 13, I), sixth spine (of figure) $2\frac{1}{2}$ in total head length, first branched ray $1\frac{3}{4}$; A. IV, 12 (on figure 11, I), third spine 2, second ray $1\frac{2}{3}$ in; caudal 1, widely forked; least depth of caudal peduncle $3\frac{3}{4}$; pectoral $1\frac{1}{2}$, rays I, 14;

Length 140 to 168 mm.

4879. Vesi Island market.

February 17, 1908. Length 360 mm.

6160. Tongil Island, east of
Gumila Reef. September 14, 1909.

Length 170 mm.

A 461. Tululutan Island.

September 7, 1909. Length 475 mm.

A 699. Si Simil Island, Borneo.

September 26, 1909. Length 390 mm.

13535. Makyan Island. November
29, 1909. Length 160 mm.

A 1403. Tampotina Island. December
21, 1909. Length 257 mm.

20957. Tomahu Island. December 11, 1909.
Length 112 mm.

A 1332. Tomahu Island. December 12, 1909.
Length 328 mm.

A 1215. Gomomo Island. December 3, 1909.
Length 357 mm.

ventral rays I, 7, fin $1\frac{2}{3}$ in
total head.

Carmine tinged with silvery.
Along each side 5 or 6 blackish
longitudinal bands. Dorsal
orange, between each spine
at base of membrane carmine
spot. Anal orange. Caudal
yellow, with broad red
border in fork. Paired fins
cherry red, pectoral axil
deep blood red. Length 185
mm. (Fauvage.)

Mauritius.

Apparently the following doubtful species, without length, and imperfectly described, belongs in the present genus:

Lethrinus imperialis De Vis Can¹²⁹
Lethrinus imperialis De Vis, Proc. Roy.
 Soc. Queensland, vol. 1, 1884 (1885), p. 146.
 Moreton Bay.

Depth less than 3 in total^{form oval}; head still less. Snout $1\frac{2}{3}$ in head, produced, rather concave above; eye 5. Canines 4 above, 4 below; lateral teeth conical, not contiguous; no posterior canine. Scales 50 in lateral line; 4 above, 16 below; head above naked to nape; opercle scaly; cheek naked, but posteriorly impressed on surface as by imbedded scales. D. X, 9, first spine short, third more than thrice second and longest; A. III, 5, third

Myripristis axillaris Valenciennes

Myripristis axillaris Valenciennes, Hist. Nat. Poiss., vol. 7, p. 491, 1831 (type locality, Isle de France [= Mauritius]).
 — Playfair, Proc. Zool. Acclimat. Soc. London, vol. 17, p. 11, 1861 (reference).
 — Bleeker, Rés. Poiss. Madagascar, Pöllen et Van Dam, pt. 4, p. 86, 1874 (reference). — Sauvage, Hist. Nat. Madagascar, Poiss., p. 19, ^{pl. 2, fig. 3,} 1891 (type).
 — Fowler, Proc. Acad. Nat. Sci. Philadelphia, vol. 79, p. 267, 1927 (Philippines).

Myripristis murdjan (not Forskäl)
Fowler, Proc. Acad. Nat. Sci. Philadelphia, p. 501, 1900 (Hawaiian Islands).

Myripristis argyromus Jordan and Evermann, Bull. U. S. Fish Comm., vol. 22, p. 172, 1902 (1903) (type locality, Hilo; Honolulu). — Fowler, Proc. Acad. Nat. Sci. Philadelphia, p. 224, 1904 (J. K. Townsend specimen reported in 1900).
Jordan and Evermann, Bull. U. S. Fish Comm., vol. 23, pt. 1, p. 154, fig. 27, 1903 (1905) (types). — Fowler, Mem. ^{Bishop} Mus.,

734

vol. 10, p. 108, 1928 (type; Honolulu); vol. 11, no. 5, p. 323, 1931 (Honolulu).

Myripristis argyromus Fowler, Copeia, vol. 122, p. 82, November 20, 1922 (Hawaiian Islands).

Depth $2\frac{1}{5}$ to $2\frac{3}{5}$; head $2\frac{7}{8}$ to $3\frac{1}{4}$, width $1\frac{3}{4}$ to $1\frac{7}{8}$. Snout $4\frac{7}{8}$ to $5\frac{4}{5}$ in head from snout tip; eye $2\frac{1}{4}$ to $2\frac{1}{2}$, greatly exceeds snout or interorbital; maxillary reaches $\frac{3}{5}$ to $\frac{2}{3}$ in eye, expansion $1\frac{4}{5}$ to 2, length $1\frac{4}{5}$ to $1\frac{7}{8}$ in head from snout tip; interorbital $3\frac{1}{3}$ to $3\frac{4}{5}$, slightly convex. Gill rakers $14 + 32$, lanceolate, subequal with gill filaments, which $2\frac{2}{3}$ in eye.

Scales 30 to 34 in lateral line to caudal base and 4 or 5 more on latter; 4 above, 6 or 7 below, 9 predorsal, 3 or 4 rows on cheek to preopercle ridge. Scales with 2 to 4 short median basal points; 22 to 45 apical denticles, each with long basal ribs and 2 series sometimes superimposed;

circuli very fine, basal.

D. XI, I, I, 13, I, XI, I, I, 14, I,
third spine 2 to 2 ¹/₁₀ in total head,
first branched ray 1 ²/₃ to 2; A.
IV, I, 12, I, third spine 2 ¹/₅ to 3,
first branched ray 1 ³/₅ to 1 ⁷/₈;
caudal 1 to 1 ¹/₄, forked; least
depth of caudal peduncle 3 to 3 ¹/₈;
pectoral 1 ¹/₃ to 1 ³/₄; ventral 1 ²/₅ to
1 ⁴/₅.

Back brown, each scale bordered
olive dusky. Below whitish, with
silvery and brassy tints. Iris
rosy, faded brassy in alcohol.
Fins uniform brown. Inside
pectoral axil large neutral black
blotch, nearly large as pupil,
not visible as fin depressed.

Mauritius, Madagascar,
Philippines, Hawaiian Islands.
Known by the absence of black on

physik. - Klasse, vol. 26, Band 6, 1913, p. 11
 (Oman). $\frac{1}{m}$ Fowler, Lopeia, no. 58, June
 18, 1916, p. 64 (Philippines). $\frac{1}{m}$ Fowler
 and Ball, Bull. Bishop Mus., no. 26, 1925,
 p. 14 (Wake Island). $\frac{1}{m}$ Herre und
Montalbin, Philippine Journ. Sci., vol.
 33, no. 4, August 1927, p. 417, pl. 8, fig. 1
 (Subic Bay and Bantayan Island). $\frac{1}{m}$
Fowler, Proc. Acad. Nat. Sci. Philadelphia,
 1927, p. 281 (Philippines); Mem. Bishop
 Mus., vol. 10, 1928, p. 212 (Mangareva, Wake
 Island, Pinapé, Lopeia).

Lethrinus masena Pöhl, Cat. Mus. Godeffroy, no. 9, 1884, p. 29 (South Seas).

Lethrinus bingus (Ehrenberg) Valenciennes,
 Hist. Nat. Poiss., vol. 6, 1830, p. 279.

Indian Ocean, Suez, Massauah.

Lethrinus abbreviatus (Ehrenberg) Valenciennes,

Hist. Nat. Poiss.,

Proc., vol. 6, 1830, p. 314. Red Sea. $\frac{1}{m}$

Peters, Archiv Naturgesch., 1855, p. 243
 (Mozambique).

the head, so coloration apparently uniform.

U. S. N. M., No. 50631. Hawaiian Islands. U. S. Bureau of Fisheries (04829). Length 245 mm. Type of Myripristis argyromus.

U. S. N. P., No. , Philippines.
Commercial Museum of Philadelphia.
Length 170 mm.

^{no}
 Fiji, Hervey, Phoenix Islands). $\frac{1}{m}$
Peters, Monatsber. Akad. Wiss. Berlin,
 1876, p. 438 (Mauritius). $\frac{1}{m}$ Bleeker,
 Atlas Ichth. Ind. Néerland., vol. 8,
 1876-77, p. 113 (on Günther). $\frac{1}{m}$ Kossman
 and Räuber, Zool. Ergebn. Kon. Akad.
 Wiss. Reise Roth. Meer., 1877, p. 11 (Red Sea).
 $\frac{1}{m}$ Kossman, Zoolog. Anzeiger, vol. 2, 1879,
 p. 22 (Red Sea). $\frac{1}{m}$ Günther, Philos. Trans.
 Roy. Soc. London, vol. 168, 1879, p. 471 (Rodriguez).
 $\frac{1}{m}$ Klunzinger, Fische Roth. Meer., 1884,
 p. 40. $\frac{1}{m}$ Meyer, An. Soc. Españ. Hist. Nat.
 Madrid, vol. 14, 1885, p. 19 (Cebu; Kordo,
 Mysore). $\frac{1}{m}$ Boulenger, Proc. Zool. Soc.
 London, 1887, p. 658 (Muscat). $\frac{1}{m}$ Vauvage,
 Hist. Nat. Madagascar, Poiss., 1891, p. 205,
 pl. 25, figs. 2-2a (Type of Stromus abbreviatus).
 $\frac{1}{m}$ Jordan and Seale, Bull. Bur. Fisher.,
 vol. 25, 1905 (1906), p. 270 (Lepia). $\frac{1}{m}$ Zugmayer,
 Abhandl. Kon. Bayer. Akad. Wiss., math. -

Myripristis leiognathos Valenciennes

Myripristis leiognathos Valenciennes,

Woy. Venus, Zool., vol. 5, p. 316, pl. 4,

fig. 1, 1846 (type locality, New

Ireland). — Fowler, Mem. Bishop

Mus., vol. 10, p. 109, 1928 (copied).

— Günther, Cat. Fish. Brit. Mus.,
vol. 1, p. 21, 1859 (copied).

Depth $2\frac{1}{2}$; head $2\frac{7}{8}$. Snout $4\frac{3}{4}$ in head from snout tip; eye $2\frac{1}{2}$, greatly exceeds snout; maxillary reaches $\frac{4}{5}$ in eye, expansion $1\frac{3}{4}$ in eye, length 2 in head from snout tip; lower edge entire; interorbital very low, 4 in head. (not shown on figure)

Scales 38 in lateral line, to caudal base; 3 above, 6 below, 4 rows on cheeks.

D. XI, I, 12, third spine 2 in total head length, second ray $1\frac{2}{3}$; A. IV, 13, fourth spine $2\frac{4}{5}$, first ray $1\frac{7}{8}$; caudal $1\frac{2}{3}$, little emarginate behind; least depth of caudal peduncle $3\frac{1}{4}$; pectoral $1\frac{3}{4}$, rays 15; ventral I, 7, fin $1\frac{4}{7}$ in total head length.

Vermilion red with golden

cheek to preopercle flange. Scales with 9 to 11 basal radiating striae, sometimes ~~many~~ as 5 incomplete auxiliaries; 56 to 95 short sharp pointed apical denticles, with 3 to 11 transverse series of basal elements; circuli very fine.

D. XII, 10, I, fourth spine 2 to $2\frac{1}{4}$ in head, first ray $2\frac{3}{4}$ to $2\frac{4}{5}$; A. III, 8, I, second spine $2\frac{2}{3}$ to $3\frac{1}{10}$, first ray $2\frac{1}{2}$ to $2\frac{7}{8}$; caudal $1\frac{1}{5}$ to $1\frac{2}{5}$, moderately forked, lobes broad, pointed; least depth of caudal peduncle $2\frac{7}{8}$ to 3; ventral $1\frac{1}{3}$ to $1\frac{1}{2}$; pectoral $2\frac{3}{5}$ to $2\frac{4}{8}$ in combined head and body to caudal base.

Back pale to light brown, sides and below white, washed with silver. Iris white, often some gray above. Fins pale.

China, Formosa, Japan.

reflections. Length 165 mm.
(Valenciennes.)

New Ireland. Although its coloration described as above the colored figure shows it largely dull or dark rose above, and pale yellowish on abdomen. No trace of black on opercle or humeral arch.

Néerland., vol. 7, 1873-76, pl. (36) 314, fig. 2;
vol. 8, 1876-77, p. 98 (Japan).

Depth 2 to $2\frac{1}{3}$; head $2\frac{3}{4}$ to $2\frac{7}{8}$, width $1\frac{9}{10}$ to $2\frac{1}{8}$. Snout $2\frac{1}{2}$ to $2\frac{3}{4}$ in head, upper profile slightly concave; eye 3 to $3\frac{2}{5}$, $1\frac{1}{4}$ to $1\frac{1}{3}$ in snout, greater to subequal with interorbital; maxillary reaches opposite front eye edge, expansion $2\frac{1}{4}$ to $2\frac{3}{4}$ in eye, length $2\frac{2}{5}$ to $2\frac{1}{2}$ in head; 4 upper and 5 or 6 lower front canines, jaw-teeth with outer uniserial even lower canine teeth with inner band in each jaw of low or granular teeth; interorbital 3 to $3\frac{2}{5}$, convex. Gill rakers 8+10, lanceolate, nearly long as gill filaments, which $3\frac{1}{3}$ in eye.

Scales 47 to 49 in lateral line to caudal base and 5 or 6 larger scales, mostly tubercles, counted out over latter; 5 above, 14 or 15 below, 25 to 31 predorsal forward opposite front eye edge, 5 or 6 rows on

740

Myripristis baianus Günther

Myripristis baianus Günther, Rep. Voy. Challenger, vol. 1, pt. 6, p. 39, 1880 (type locality, Kei Islands, 129 fathoms); vol. 22, p. 35, 1887 (type). — Weber and Beaufort, Fishes Indo Austral. Archip., vol. 5, p. 253, 1929 (copied).

Depth ~~between~~ 2; head little less than 2. Eye $3\frac{1}{2}$ in head; maxillary reaches below hind eye edge, not denticulated; interorbital 2 in eye, convex; opercle covered with series of spines; opercular spine strong, of moderate length.

Scales 29 in lateral line; 3 above, 7 below. Scales deeply serrated, those above lateral line with acute long spines.

D. XI, I, 13, third spine longest, nearly 2 in head; A. IV, 11, third

much stronger and longer than fourth, also much longer than opercular spine.

Reddish pink, with silvery line along each series of scales.
Length 190 mm. (Pünther.)
Kei Islands.

Urentex japonicus Bleeker, Nederland.
 Tijdschr. Dierk., vol. 2, 1865, p. 173
 (Siam); Verslagen Med. Acad. Wetensch.
 Amsterdam, series 2, vol. 4, 1870, p. 250
 (China); Nederland. Tijdschr. Dierk.,
 vol. 4, 1874, p. 117 (China). + Fowler,
 Proc. Acad. Nat. Sci. Philadelphia, 1927,
 p. 283 (Orion; Philippines); Journ. Bombay
 Nat. Hist. Soc., vol. 33, no. 1, 1928, p. 114
 (Bombay); Proc. Acad. Nat. Sci. Philadelphia,
 1929 (1930), p. 609 (Hong Kong).

Hemipterus japonicus Jordan and Seale,
 Bull. Bur. Fisher., vol. 26, 1906 (1907), p. 21
 (Cavite). + Evermann and Seale, Bull. Bur.
 Fisher., vol. 26, 1906 (1907), p. 82 (San Fabian).
 + Jordan and Richardson, Bull. Bur. Fisher.,
 vol. 27, 1907 (1908), p. 258 (Manila); Mem.
 Carnegie Mus., vol. 4, no. 4, 1911, p. 186
 (Tubao, Formosa). + Seale, Philippine Journ.
 Sci., vol. 9, no. 1, 1914, p. 66 (Hong Kong).